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GENTLEMEN of the Canadian Medical Association:—I desire to convey to you my very high appreciation of the honor conferred by you, in electing me to the highest position within the gift of this Association. I hope to prove worthy of your confidence, and that your time at this meeting may be spent both pleasantly and profitably.

On behalf of the medical fraternity of London and vicinity, I extend you a most hearty welcome. Also, on behalf of this Association and City, I extend fraternal greetings to those of our fraternity who come from abroad, as delegates and visitors.

Truly, this is the age of associations. No matter what the calling may be, we are sure to find a union or association connected with it. People have learned the truth of the old adage, "In unity there is strength."

Social progress, during the past thirty years, has been most marked. All along the line we see the word *progression* in large and vivid characters. By these unions or associations the status of society at large is raised.

The chief elements or the main essentials of an association are:—

(1) The ethical side, by which its members are united and harmony promoted among them, through the settling of internal differences by stating more clearly our duty toward each other.

(2) The scientific side, through which a higher state of efficiency pertaining to the craft or profession is attained.

(3) To resist aggression from outside sources.

These advantages apply equally as well to Medical Societies as to any other form of society.

The Medical Society or Association gives each member of the profession an opportunity of meeting his fellow practitioner from throughout the length and breadth of the land. They hear the papers and debates on the various subjects of interest, medical or surgical, in which are detailed the failures and the triumphs of disease. A single

paper or discussion may suggest to the mind of the hearer a train of thought leading up to untold benefit to himself and those under his care. It gives him renewed and increased enthusiasm, without which we are unable to work successfully or comfortably. The minds of men are not all of the same cast, hence we find all the sides and shades of a question taken up and inspected critically in all their varying aspects. Failures as well as successes are, or should be, recorded and discussed. The confession of mistakes and failures, while it requires a great deal of moral courage, is a means of imparting great information of a profitable character. The most brilliant and astute observers, the most successful practitioners, have all made mistakes and had dismal failures, the recital of which serves to encourage the more timid by showing that the leading men do not live and work on a higher plane than the ordinary observer, that these men have their perplexities and trials to overcome —all of which affords much instruction and encouragement to those who are diffident and less courageous—that "genius consists, chiefly, in an infinite capacity for taking pains."

Hints of a valuable character are frequently dropped, in discussions, even from the most humble, which may take root and bear fruit in the minds of the most erudite.

The beneficial results of these meetings are not confined to science. The ethical and social side is quite as important. Medical men are inclined to live within themselves, or within certain rings or circles, to the exclusion of their neighbors. At the Medical Association all barriers are, or should be, broken down. The hatchet of professional strife should be laid aside and the brethren dwell together in peace and learn to know each other—to know that our confreres are not the professional cut-throats and free lances we had imagined—to know that they belong to a profession whose members are united and cemented by the bonds of fellowship, laboring with enthusiasm at the greatest of all sciences, viz., the alleviation of human suffering and the conquering of disease.

The Ancestry of Our Profession.

The domain of science and literature has been aptly likened to a republic, wherein all its votaries are regarded as being upon an equality. It makes its own laws, each member having an equal right with his fellow. Truly, there is no royal road to learning. All must keep the same weary vigils. As scientists, we owe no allegiance to any nationality, kindred, race or tongue. We all tread the same broad platform, each contributing his quota to the general fund of knowledge. Each generation has handed down its experience, which has been verified and perfected by following generations. Thus the general fund of know-

ledge has grown, gradually becoming more and more defined, facts were weighed, great truths were established.

Let us look for a moment at the origin or early history of our own beloved profession, in other words, "our ancestry." Melchisedek, King of Salem, whose name signified King of Righteousness, who brought forth bread and wine and blessed Abraham, was both king, priest, and physician. He is regarded as the great proto-type of Christ, the God-man, who went about preaching, healing the sick and raising the dead.

In Melchisedek, as was usual in Egypt and India, we find a combination of the priesthood and physician. Melchisedek, being both king, prophet, priest and physician—a noble ancestry!—our profession has, as we have seen, both a royal and priestly origin.

In Hellenic history, the first allusion to medicine of an authentic character is found in the Homeric poems, which were written somewhere about 1050 B. C. In allusions there made it is clear that medicine had already a history. We find a distinct and organized profession, with rules and regulations as to the treatment of injuries, which must have taken many ages to formulate; also we meet with terms in nomenclature which, long after, were used by Hippocrates.

The Homeric heroes, themselves, are represented as having considerable skill in surgery and able to attend to ordinary wounds and injuries. But there appears to have been a professional class represented by Machaon and Podalirius, the two sons of Asclepius, who were treated with great respect. It would appear, too, from the Aethiopis of Archinus that the duties of these two were not precisely the same. Machaon's task was more especially to heal the injuries, while Podalirius had received from his father the gift "of recognizing what was not visible to the eye, and tending what could not be healed." Here we have the first indication of the Separation of Medicine and Surgery.

Asclepius or Esculapius appears in Homer as a Thessalian King, not as a god, although in later years, divine honors were paid him and he was worshipped as a god.

From this, it appears, that the origin of our profession both in profane, as in sacred history, has a most noble ancestry, being both royal and sacred in character, dating from time immemorial.

Seeing then, the very high position which our profession occupied in the past, and the very important, nay, essential part it plays in the welfare of civilized nations, in the present age, how necessary is it, that its members be men of culture.

In the early pioneer life of this continent, especially the newer settlements, the chief struggle consisted in providing homes and other

necessaries of life. Few and far between were the luxuries, as the struggle for existence was keen. The more provident had an eye toward laying up a fund for a time of need. The earlier generations were brought up in the stern lap of necessity. Books were scarce and difficult to obtain. Teachers beyond those having a mere rudimentary education were not easy of access yet, even under these discouraging circumstances we find that there were many men of prominence in our profession, for some are born to be great. As time went on and wealth increased, schools of a more advanced character were established. Our educational system has been founded upon a broad and liberal basis, so that we now boast of one of the most admirable systems of education, from the common schools up to our universities. With our admirable educational facilities which are now within the easy reach of all who are ambitious to excel, what excuse have we for a low standard for our matriculation in medicine?

Our profession has always been regarded as one of the learned professions, whose members are, or should be cultured gentlemen. The Poet Ovid tells us "Ingenuas didicisse fideliter artes emollit mores" "To have faithfully studied ingenuous arts softens manners." I am well aware that culture does not depend entirely upon mental training. A great deal is due to the innate character of the individual, then the early environment shapes and moulds the mental tendency or temperament, exaggerating or repressing as the case may be.

In no walk of life does the inner life of the individual shine out so brightly, unless it be that of our sister profession, the clergy. In no profession is the highly cultured man more truly honored, neither has any class, of society, more power for good than the cultured and polished physician. Emerson says that "a gentleman is a man of truth, lord of his own actions and expressing that lordship in his behaviour." In no way can this high ideal be so readily and effectually obtained as in the words of Ovid "To have faithfully studied or cultivated ingenuous arts."

Our country, although vast in extent, has not, until lately, attracted the attention of the better class of emigrants and settlers to the extent its importance demanded. Our great agricultural and mineral wealth has only recently been properly and fairly ascertained and placed before the old world. We are now on the eve of a great and continued prosperity.

One of the great essentials to success or prosperity of any kind is, for those concerned to have faith in themselves and their cause, whether it be our country, our profession or a more elevated plane of life in general. A tone of intense optimism prevails, betokening that confidence and faith which ensures our prosperity.

With increased wealth, comes greater leisure which leads to a higher culture, a higher plane of thought.

Let us, as a profession, be alive to our needs and establish a high ideal. Although we may not be able, at once, to attain this high standard, yet, it should ever be before us, constantly stimulating to farther efforts.

We should encourage our students to be thorough and well grounded in their preliminary training. A great deal can be done by our medical associations in advocating the higher education of students in medicine. You can strengthen the hands of those who have in charge the matriculation and medical curricula. I do not pretend to say that a high standard of education will make every man great and brilliant. Some will be great and brilliant in defiance of all the defects of our curriculum. If there be inherent greatness in spite of disadvantages, how much greater eminence may such men be enabled to attain under superior advantages?

Dominion Registration.

A uniform standard of medical education throughout the Dominion is much to be desired, and the advantages derived therefrom are many. Our country is vast and many sections are being rapidly populated.

We had all hoped that we were within reach of a solution of the vexed problem of Dominion registration. All the provinces, even Quebec, appeared satisfied with the provisions of the bill when passed.

You will remember that the original draft of the bill contained the clause, "when five or more provinces consent." This clause was obnoxious to the Dominion Government and it compelled those in charge of the bill to change it to "all the provinces must consent" before the work can be begun. This action of the Government, which we now know, was done in order to placate Quebec, was particularly unfortunate, as it was the means of wrecking Dominion registration for the present.

Five provinces, viz., Nova Scotia, New Brunswick, Prince Edward Island, Manitoba and the North-West Territories, have passed the necessary legislation—to the effect, that anyone possessing the license of the Dominion Medical Council may enter any of these provinces and practise his profession on the payment of the registration fee of the province. The North-West Territories enacted, in addition that *this qualification alone would admit to practise there.* The Province of Ontario has not, as yet, endorsed this bill. The Premier, Mr. Ross, has expressed himself as being very strongly favorable and volunteered to take charge of it himself, but there is no doubt that his unstable tenure of office and the very grave charges brought against some members of his cabinet,

were the chief causes of its being left over, through pressure of weightier matters.

British Columbia also is in a very unsettled state, politically, the legislature being unable to get through its legitimate business.

Those in favor of Dominion registration who have watched the trend of public sentiment in these two provinces, feel assured that so soon as the political atmosphere becomes cleared, they will express their approval of the act by adopting it.

Quebec is the one great obstacle, the legislature having rejected it by a large majority, but I am proud to say that the English members voted solidly for it.

The New Brunswick Legislature, in their bill accepting the provisions of the act, recommended that the Dominion Government be urged so to permit the provinces, asking for the Dominion act, to go on and allow the other provinces to follow, just in the same way that Confederation was brought about by the four provinces, Ontario, Quebec, Nova Scotia and New Brunswick accepting the Confederation Act—Prince Edward Island and British Columbia, with later Manitoba and the North-West Territories coming in when convinced it was a good thing.

Since the defeat in the Quebec House, Dr. Roddick who had charge of the bill, has been endeavoring to induce the Dominion Government to allow him to bring in an amendment to the act on lines similar to the original draft, whereby five or more provinces, which is a majority of the total number of provinces, being ready to accept the act, the Dominion Council may be formed and put into operation. So far, he has not proceeded—the answer being that Quebec is certain to come in.

Now, present indications show that Quebec has no intentions of accepting the act as it stands at present, unless amendments of a most damaging character are made to suit this province only, and which will render it entirely unacceptable to the other provinces.

The solution to the difficulty as it now stands is, for the other provinces, if they want Dominion registration, to rise in their might and their right and insist upon an amendment such as Dr. Roddick has urged upon the Dominion Government.

Should the Province of Quebec desire to continue as at present, for certain selfish reasons, and adopt the "dog in the manger" policy, is it just that the other provinces be kept out of their rights?

Medical Literature.

During the past decade, literature has made considerable advancement in our Dominion. With increasing wealth, we have an increasing

appreciation of the fine arts and all forms of culture. Literature has not lagged behind the sister arts. Our daily papers are equal to those produced in any country. Our weekly and monthly periodicals both in medical and general literature are rapidly improving. Literary aspirations have been growing and bearing fruit in the form of many delightful books.

It is true, our literature has not yet assumed a type peculiarly our own, but has taken the tone and characteristics of our great motherland. This, in a great measure, is to be accounted for, by the abundance and cheapness of all kinds of literature brought from other countries, which has to a great extent, smothered out our native talent, while the struggle for existence in a new and growing country has been too great to allow of time and energies being spent along this line.

Now that general literature is making such advances, I feel constrained to express a fervent hope that medical literature may make an equally good showing in our country, in the near future, and trust some of our men may enter the fields of medical authorship.

The hospital equipment throughout the Dominion is rapidly improving and being put on a most excellent footing. Our larger cities with their well equipped hospitals should be in a position to give our men a thorough post-graduate course.

Patent Medicines and Proprietary Preparations.

I am anxious to call your attention to the patent medicine craze and the great danger therein to the unsuspecting public. It has been estimated by most reputable authority, that more than $600,000,000 are annually expended in this manner alone. One can scarcely grasp, at first thought, the true situation, nor its gravity. The evils are many and of a serious character. Certainly not the least, is the alcohol habit, which, insidiously insinuating itself under the apparently harmless form of a simple medicine, is stalking in our midst like a midnight pestilence. Many of these preparations consist largely of alcohol ranging from 10 per cent. to 60 per cent. Various narcotics also figure largely in their composition, such as opium, morphia, codeia, cocaine, belladonna, hyoscyamus, chloral, bromides, etc., etc. These manufacturers publish glowing accounts as to the wonderful manner in which their nostrums were discovered, with a number of laudatory testimonials, many of them fictitious, some, I am sorry to say, being from prominent citizens, such as clergymen, detailing the wonderfully curative properties of these mixtures, of the nature of the contents, of which they are utterly ignorant. These circulars and papers are strewn broadcast throughout the land. The credulity of people, in this respect, is great, neither is this extreme cred-

ulity confined to the less educated class. The more ignorant and mysterious the source of the medicine, the more marvellous the testimonial and unworthy of belief, so much greater is the confidence. Nostrum after nostrum is resorted to in the vain effort for relief before consulting a proper medical adviser, losing much valuable time in allowing the disease to make greater progress, then add to all this the irreparable harm often done by the use of medicine contraindicated.

Evil habits are frequently contracted, leading up to confirmed inebriety, also to morphinism, etc., many of these preparations are used in secret, the so called secret preparations which are so largely advertised in the public press, suggesting evil thought and provoking curiosity in the minds of our youth, often leading to contamination.

There is another class of preparations, in the form of stimulating tonics, made and sold by reputable pharmacists, which is frequently the cause of much mischief, particularly where they are self prescribed which is so often the case. I allude to such preparations as wine of beef and iron, coca wine, etc. These, and similar preparations are frequently prescribed by people of apparently strong temperance principles who would hesitate to use or recommend the ordinary alcoholic preparations.

Those who suffer most from the use of these latter preparations are delicate neurotics who are attracted partly by the high sounding names, which convey to their minds the idea that this is, indeed, the very thing which they require, and partly because it is pleasant to the taste and of a stimulating nature, giving them a feeling of temporary relief from their depression. After a time, it becomes almost a necessity, leading frequently, to the use of stronger preparations, ending in inebriety.

Cannot something be done to shield the public from this great evil? Shall we, the members of this enlightened profession, who see this monster, with its many sided evils, daily flaunted before us, having its bold, indecent advertisements in our public press, pervading even the religious journals, thereby giving an apparent sanction, and clothing these nostrums with an air of respectability; we who daily meet in our professional rounds, melancholy examples of this terrible delusion, I say, shall we not raise our voices in loud protest against it? Can we not unitedly, in some way, arouse public sentiment, so that in some measure, at least, evil may be rectified?

There is a law in France, by which all makers of patent medicines are obliged to put the formula, both qualitative and quantitative upon the package. Should there be any suspicion of fraud, officers are instructed to obtain samples from the dealers or vendors. Upon the suspicion being verified by analysis, the officers are empowered to prohibit further manufacture and sale.

Our profession which has done so much in the form of preventive medicine, so much for the advancement of the public health in the past, should not stop short, while such important work yet remains to be done.

The Practitioner's Duty to Himself.

A great deal has been said about the duty of the Physician to his patient. I presume we are all quite familiar with this part of our duty. But there is another phase of the Physician's duty, about which very little has been said. I allude to the duty of the Physician to himself.

The life of the general practitioner is a most arduous one, even the ordinary holidays, and that most beneficent gift to man; viz: The seventh day's rest, are practically denied him.

As a result he is constantly in harness. This coupled with the great anxieties of his profession which so largely consists in dealing with that most uncertain of all things, viz., life, health, and human nature, keeps him almost constantly in an anxious condition. Through time, if doing a large amount of work and having ambition and pride in his profession, wishing to excel, it begins to wear upon him, his vitality becomes lowered and he gets to be neurasthenic—being both mentally and physically below par, which seriously lessens his capacity for work and impairing its effectiveness through impatience and irritability. Who is there among us, that cannot recall many times in his professional life, when he has been unequal to the occasion through some mental infirmity? Now, these mental infimities are largely the result of overwork, along with the perplexities and anxieties with which we are so constantly beset.

Many of the brightest ornaments of our profession die early or are laid aside from work as a result of this terrible strain.

The profession, no doubt, is much overcrowded. The old adage, "There is room at the top," has been overdone. Many good and brilliant men perish in the ascent, and when the top is reached the strain is often too great to retain the position. In order to overcome the effects of this great strain, complete relaxation is necessary, such as is obtained in an occasional holiday, with change of scene. It is also well to cultivate some particular hobby, so long as it does not entail too great a drain upon the pocket.

The perusal of literature other than medical subjects, attendance upon concerts, lectures, the opera are all useful in bringing into use another set of faculties or brain cells which unfortunately are, too often, allowed to lie dormant by the average medical man.

A prolonged rest, however, with change of scene, is, without doubt, the best treatment for the broken-down neurasthenic medical man. Some years ago, I came across an able article upon this subject, wherein the

writer made the assertion that the busy practitioner should have every seventh year entirely free from professional work, in order to compensate for the prolonged strain and the loss of the seventh day's rest. In fact, let us be wise, and prescribe for ourselves just in the same manner we would for our patients.

Medical men, as a rule, do not follow strict business methods in their financial affairs. The chief reasons for this grave and serious irregularity in business methods are :—

(1) The irregular life they are obliged to lead, especially in severe epidemics and unhealthy seasons, long drives and irregular hours soon upset method and order, and the accounts rapidly assume a state of chaos.

Finally his affairs get into a state of inextricable confusion, the unfortunate medico being driven into despair and is obliged to make a settlement with his patients, often, considerably under the proper value through the want of a proper statement to guide him. I have known a physician to pass an entire week without even taking a note or making an entry of his daily work.

(2) Many are too sensitive to send out their accounts regularly and are too modest to claim a proper honorarium, or it may be, they are too dilatory in their work to do so in a regular manner. Why should the medical man who has gone to great expense and labor, sacrificing his time for years while securing his professional training, hesitate to claim a fair honorarium ?

No other class in any community is called upon to make greater sacrifices of time and comfort, and which so readily and conscientiously responds to calls of distress, or is so abundant in deeds of charity. Then what should he fear in claiming a fair pecuniary reward, or why should he defer the day of reckoning ?

The progressive physician will be ever on the alert to provide himself with the latest devices to save time and labor, so as to allow himself all the freedom and relaxation consistent with the demands of his profession.

The minor affairs of professional life are apt to be thought too insignificant to occupy the attention of such an assembly as this learned body, yet we must remember that life is made up of a series of details, each important in itself, we cannot always live in the clouds or upper strata of science, but must descend from time to time to the more homely affairs of life, in order to refresh and invigorate ourselves for the higher plane of thought.

I have endeavoured to confine my remarks to some of the more commonplace subjects which interest us all alike, leaving the scientific side of our professional needs for your admirable papers and discussions.

THE CARDIAC ASPECT OF ARTERIO-SCLEROSIS.*

By T. W. G. McKAY, M.D., Oshawa.

THE changes to be considered are (1) compensatory hypertrophy without and with dilatation; (2) dilatation and failure of compensation; (3) pathological conditions, more or less interdependent in the coronary arteries, the myocardium and the endocardium; and (4) disturbed cardiac innervation.

Efficient compensation and good health may exist for years and no symptoms of cardiac trouble be present. Compensation is the natural result of cardiac response, by means of muscular hypertrophy, to the stress induced by the peripheral resistance following the toxic arterial spasm and increased functional activity of the heart. It is best marked in young, vigorous adults, or the well developed middle aged. They show on examination a full, regular, strong, sustained high tension pulse of normal rate and with no apparent thickening of the artery. The enlarged heart is indicated by heaving precordial impulse, displacement of the apex beat downwards and outwards, increased percussion, dulness, prolonged first sound on auscultation, and a clear ringing and accentuated second sound, particularly over the aortic area. In more advanced cases, arterial thickening and associated myocardial and endocardial changes are to be found. The preliminary change in the left ventricle is followed by hypertrophy in the left auricle, and also in the right ventricle and auricle, the signs of enlargement increase and the impulse becomes heavy and more forcible. The pulmonic second sound is accentuated.

As dilatation overcomes hypertrophy, the cardiac impulse becomes lessened in rate and the tension lowered. The first sound of the heart is shortened and sharpened. Complaints are now heard of headache, tiredness, coldness, numbness, and tingling of the extremities, noises in the ears, dizziness, and gastro-intestinal disturbances. There is an increased flow of urine of a low specific gravity, containing traces of albumen. Ruddiness gives place to pallor, robustness and corpulence to a loose flabby fat. Anæmia becomes marked. This condition demands prompt hygienic and tonic treatment.

Failing compensation is marked by weakness, dyspnoea, precordial distress, vertigo, loss of consciousness, irritability, convulsions and insomnia. The heart is still more dilated, its action becomes weak and irregular, and may be accompanied by to-and-fro soft valvular murmurs, due to relative incompetence. These must not be mistaken for murmurs due to endocardial lesions which may also be present. Nutrition fails

* Read at the Ontario Medical Association, 18th June, 1903.

rapidly. The patient becomes sallow, emaciated and cachectic. The urine becomes scanty and high colored. The pulse is rapid, irregular and intermitting. Lividity and breathlessness on slight exertion, congestions of the internal viscera, œdema of legs, œdema of lungs, cardiac asthma, laryngeal cough and rusty, frothy, or albuminous sputum, hæmorrhages, and hypostasis indicate the gravity of the condition.

In long standing cases, emphysema and fibrosis of the lungs are found. Death is frequent from hypostatic pneumonia and, in the more acute cases, from syncope and sudden failure. The heart is dilated in all directions and its impulse may be seen and not felt. There is marked epigastric pulsation, venous congestion and pulsation, fœtal and gallop rhythm of the heart may be detected. The prognosis is very grave. The treatment in the milder cases is cardiac stimulation; in severer cases, with marked lividity and urgent dyspnœa, venesection.

Changes in the Coronary Arteries.

The changes in the coronary arteries give rise to, (1) embolism, which is very rare, and not diagnosable; (2) aneurysm, which is also extremely rare; (3) coronary endarteritis, which is one of the commonest manifestations of arterio-sclerosis, leading to defective nutrition and degenerative changes in the myocardium, and (4) thrombosis, due to coronary endarteritis, giving rise to anæmic infarct, fatty degeneration and slow fibroid change, frequently causing angina pectoris, rapid heart failure, and sudden death.

Changes in the Myocardium.

Aneurysm of the heart is rare and hard to diagnose. It interferes with the mechanical action of the heart. It is generally found in the left ventricle and follows fibroid myocarditis. Rupture occurs into the pericardium and causes instant death.

Fatty infiltration follows along the coronaries and their branches, interfering chiefly with the mechanical action of the heart. It occurs in stout, plethoric, middle aged, luxury-loving, individuals, who live too well, and exhibit defective elimination. It gives rise to no special symptoms, except those of a weak heart. The heart is usually enlarged, dilated and relaxed. The prognosis is good, unless complications set in. Such cases do well under hygienic, gymnastic and spa treatment.

Fatty degeneration is usually allied, more or less, with fibroid infiltration. It is insidious in its onset. The muscle elements undergo hyaline degeneration, fatty change and atrophy. Connective tissue infiltration of a conservative character, to maintain the resistance of the

heart wall, follows later. Once established, there is no tendency to return to a healthy condition. The subjects of it are usually middle aged and of the male sex. The symptoms are those of a dilating heart. The heart is enlarged, flabby and relaxed, and its substance friable. Over exertion induces syncopal and anginal attacks. Later on, these occur at night. There may be Cheyne-Stokes symptoms. The prognosis is very grave. Treatment is mostly palliative, dietetic, hygenic and massage, with tonics, such as iron, arsenic, strychnine, and oxygen, carminative stimulants, and heart tonics in emergency cases.

Fibroid infiltration,—fibroid myocarditis—is the commonest and most important of the arterio-sclerotic lesions. Generally associated with hypertrophy, it may be either general or local. It follows coronary obstruction and chronic congestion of the heart, indicating attempts at repair. The heart muscle atrophies and fibroid-infiltration occurs. The chambers are dilated, their walls thickened, their resiliency and contractile power diminished. There is a gradually failing compensation, and often there are other associated degenerative changes. Sudden death or angina pectoris may be the first manifestations of the presence of the condition. Like fatty degeneration, it occurs mostly in middle aged people, or those over fifty, and most often in males. The signs and symptoms are those of failing compensation. Frequent attacks of gastralgia have a grave significance. Signs of emphysema, chronic Bright's disease, or arterial degeneration are always present. In advanced, elderly cases, slow pulse (20 to 40 beats to the minute), with syncope, epileptiform, and apoplectiform attacks—the Stokes-Adams syndrome—are to be found. The arteries are thickened, palpable, and firm, the pulse regular at times, but more often slow, and of irregular force and rhythm. When secondary to mitral disease and emphysema, it is feeble, changeable and compressible. The heart is enlarged in all directions. Its beats are less forcible and more diffuse than in pure hypertrophy. The first sound is longer, duller, and rarely heard at the base. The second sound is dull, muffled and prolonged. The prognosis is grave. Treatment is as for fatty degeneration with the use of nitroglycerine.

Changes in the Endocardium.

Aortic changes are due to valvulitis, fibrosis, contractions and adhesions, of the valve segments. The changes are most marked at the points of contact and at the attachment to the fibrous ring of the aortic opening, and are induced by dilatation of the aorta, high tension, disordered cardiac nutrition, and involvment of the coronaries.

Aortic stenosis is diagnosed by a harsh, rough, sawing systolic murmur, associated with cardiac thrill and hypertrophy with, at first, but little dilatation, and a small, slow, sustained pulse of fairly high tension. It occurs usually in older people. In simple cases, the prognosis is good. Life may be long. Death results from exhaustion of the ventricle and syncope, or degeneration and asystole. It is usually associated with aortic regurgitation.

Aortic regurgitation may be primary, following an atheromatous and dilated aorta, or due to relaxation in aortic stenosis. It comes on gradually, being usually found in younger or middle aged people, and accompanied by a murmur of relative stenosis. There is great hypertrophy of the left ventricle, a diastolic murmur, traceable to the aortic valve, throbbing arteries, and Corrigan's water hammer pulse. The prognosis is graver than in all other valvular troubles, angina being common. Cerebral embolism may occur. It leads, sooner or later, to dilatation and mitral insufficiency.

Mitral disease is due to increased ventricular pressure, following circulatory obstruction, and the relaxation of an overworked, degenerating heart muscle. It also follows degenerative changes in the cords, papillary muscles, valves, and the fibrous ring of the opening.

Mitral regurgitation is the common result of all conditions which prevent a proper closure of the valve. Once the equilibrium is disturbed, it may persist for years. The signs are a mitral systolic murmur, transmitted to the left, and heard posteriorly, accentuated pulmonic second sound, and hypertrophy of both sides of the heart. The pulse is small, of low tension, and often dicrotic. The inevitable outcome is dilatation and its consequences.

Mitral stenosis is due to contractions and adhesions of the valve, and degenerations in the neighboring wall of the ventricle. It induces marked dilatation and hypertrophy of the left auricle, right ventricle, and auricle, and causes pulmonary congestion. The signs are presystolic thrill and a murmur of a churning character, hypertrophied right heart, left heart normal in size, and accentuated pulmonic second sound. The prognosis is unfavorable. Failure of compensation is the result of this lesion.

Pulmonary incompetence is exceedingly rare.

Tricuspid incompetence may be temporary—to relieve a laboring heart, or permanent. It is a common sequence of aortic stenosis, mitral incompetence and aortic regurgitation. The signs are systolic pulsation in the jugulars, swollen and pulsating liver, a soft, low, systolic murmur over the lower end of the sternum, accentuated pulmonic second sound,

increased cardiac dulness to the right of the sternum, epigastric pulsation and cardiac failure. The prognosis is bad. The treatment of all valvular troubles is to maintain the maximum of compensation.

Thrombi in the left ventricle may cause systemic emboli, whereas in the right ventricle they give rise to pulmonary apoplexy and infarcts.

Ulceration of chronically diseased valves may give rise to malignant endocarditis, manifested by rigors, fevers, chills, sweats, cardiac pain, sense of oppression, shortness of breath, and embolism. The prognosis is very grave.

The senile heart is often small, not necessarily hypertrophied, is pigmented, fatty, or atrophic. It shows brown atrophy. The arteries are tortuous, stiff and rigid. The patients are emaciated, sallow, anæmic and cachectic, with arcus senilis. The heart is small and its action weak. The pulse is small, rapid, it may be slow, at times, it is irregular and intermitting. Syncope is common. The treatment is mainly stimulants for the acute attack.

Angina pectoris, as a symptom group, is induced by all such cases as increase cardiac embarrassment by constricting the arterioles, by local cramp of the muscle, and by stretching, or compression, of the cardiac plexus. Fatty degeneration and mitral regurgitation tend to relieve the tendency toward it. It is least dangerous in fatty infiltration and gravest in aortic regurgitation, atheroma, fibroid degeneration, and aortic and mitral spasm. It is characterized by intensely agonizing, constricting, precordial pain. In mild attacks, it may be only dull and oppressing. In severer attacks, the pain radiates down the inside of the left arm to the fingers, to the sternum, the intrascapular region, the side of the chest and at times, to the right arm. The face is pale, anxious, and ashy, and covered by a cold beady sweat. The lips are livid. The patient at times is restless, but more often very quiet. The pulse may be small, hard, thready and irregular; nearly normal in rate, or slowed. The heart sounds are feeble, distant and valvular. The attack lasts only a few seconds, or minutes, and subsides. It may recurr successively. Death may occur at the height of the attack, or by faint and syncope. Relief is accompanied by eructations of gas, flatulence, passages of large quantities of urine, and exhaustion. Treatment, first for the paroxysm by amyl nitrite, nitro-glycerine, and morphia, followed by stimulants and carminatives, if needed; secondly, iodide of potash, arsenic, etc, as the cardiac state requires.

THE RENAL ASPECT OF ARTERIO-SCLEROSIS.*

JOHN CAVEN, B.A., M.D.,

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IN studying the renal aspect of arterio-sclerosis we come at once upon a broad division of cases into two classes, viz.:

1. These in which the symptoms indicate a more or less widespread vascular change, the kidneys not being specially involved, and

2. Those in which the kidneys are indicated as the chief cause of symptoms.

Into the vexed question as to whether renal change or general vascular change be primary in those chronic cases in which a fibroid and shrunken kidney has been found I do not propose to enter. This much however, seems to be beyond dispute, viz., that we find in practice arterio-sclerosis declaring itself as a widely generalized condition, with or without symptoms indicating that some one or more organs are suffering especially and as an affection apparently well limited to certain definite structures. It does not seem to me to be reasonable to speak of arterio-sclerosis of the cerebral vessels, arterio-sclerosis of the vessels of the heart, arterio-sclerosis of the digestive tract, not considering the changes inflammatory, and then when we find a similar condition in the kidney to talk of nephritis, and leave out of view the relationship in causation between the various clinical conditions. It must of course, be understood that these cases in which we have a history of chronic kidney change following a definite initial attack of nephritis are not under consideration.

Although I have spoken of a division into a generalized and a localized arterio-sclerosis as affecting the kidneys, it must not be supposed that in the one case some systematic influence is at work and in the other a merely local influence. On the contrary the symptoms and findings go to show that some widespread defect of metabolism is accountable for the changes. The proof of this lies in the fact that close observation demonstrates our inability to predict from general symptoms (and these will be found in all cases if carefully enough looked for) before marked defect is showing itself in any one locality, what the progress of the case will be, whether kidney, heart, or brain, or more than one of them, is to be specially affected. Variations in the pathological conditions found, however, would indicate differences in the toxic matters giving rise to the changes and, perhaps, peculiarities in the

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constitution of the structures affected. It is taken for granted that all disease is due to toxic influences, using toxic in the widest sense.

It has been said that all pathological changes and conditions have their physiological prototypes. There is nothing new under the sun. In this view the vascular changes found in scar tissues and in advancing years may be taken to represent those of pathological arterio-sclerosis. Whether that changes in other tissues induce the vascular alterations in old age or the opposite of this be true, at any rate in the condition of the arterial system we have an indication of the age of the organism. These changes have been described in detail and need not, therefore, take up our time, but I would like to point out that if what precedes be correct, arterio-sclerosis conditions should vary greatly in seriousness according to the age at which they occur, even if considered in part at least pathological. This, I think, is actually proven in practice. The urinary peculiarities indicating vascular degeneration are of relatively less serious import in the man of 70 years than in the man of 40 years, and this is not merely because the expectation of life in the septuagenarian is much less in any case than in the man of 40, but because the symptoms and progress in the younger man will be much pronounced and harassing. It may be asked why, if pathological arterio-sclerosis be toxic in origin, do we compare it with the normal process of ageing? The answer is clear, that the ageing of tissue is due to intoxications, it may be of various kinds. There comes a time in every chemical experiment when apparatus must be cleaned and renewed if results are to be accurate; environment prevents the completion of this process in the case of the human crucible and continual small accretions finally render it useless.

Anatomy.

The kidney in arterio-sclerosis, not specially affecting the kidney.—Here we find changes such as are seen in old age. The whole organ is somewhat reduced in weight, it is firm to feel and gives one the impression on handling that the fibrous elements are increased. The capsule peels fairly readily, however, and, whilst both cortex and medulla are reduced in amount, their relative proportions are preserved. The appearances are suggestive of an evenly diminishing blood supply. Small cysts may or may not be seen beneath the capsule. The microscope shows the blood vessels somewhat thickened, perhaps but slightly, here and there fibrosed malpighian bodies together with slight increase of connective tissue, particularly beneath the capsule, where the tubules may be compressed.

The kidney in Arterio-Sclerosis where Renal Changes are marked. Here the fibrosis is well marked and widespread, the connective tissue of the kidney being greatly increased. The increase is not evenly and regularly diffused throughout the organ, some parts being much more pronouncedly affected than others, and in the areas where change is greatest vascular sclerosis may have progressed to complete conclusion. Why some vascular areas should be more affected than others we can no more tell than in the case of other organs. The microscopic findings vary with the fibrosis, the destruction of secreting tissue being marked and due evidently to both direct external pressure upon the tubules from new tissue and internal changes in them resulting indirectly from it.

The Urine in Arterio-Sclerosis.

In arterio-sclerosis whether discovered through patients seeking relief from symptoms or in apparently quite healthy persons who may be, *e. g.*, applying for life insurance and so subject to examination, the urine gives definite and perhaps in all cases, characteristic information. I would not like to say that in all cases the results of a single examination can be taken as positive proof, but I am sure that even where other means of diagnosis may give dubious information, careful, repeated analysis of the urine will justify at the very least the opinion that the conditions which will ultimately produce marked arterial changes are operating. I am speaking now of distinct pathological sclerosis, not the condition of normal ageing.

The quantity of urine in 24 hours varies, and is, where the kidney is not specially involved, about normal, rather lessened than increased. Its color is more often on the dark side than the light. The appearance is usually clear and limpid and a permanent froth is often found on it even where albumen cannot be demonstrated by any ordinary tests. This froth has the peculiarity that its bubbles are small compared with those forming on a distinctly albuminous urine. Pouring from a bottle which is being shaken demonstrates the difference. The sediment, if any, is usually nebecular and often shows uric acid or oxalate of lime crystals.

The reaction is acid and very commonly markedly so.

Specific gravity varies of course, but the tendency is to a fairly high mark. If kidney changes advance, then later, with decreasing elimination, relative specific gravity becomes lower.

Phosphates are often diminished and this is noteworthy.

Chlorides vary within normal limits.

The amount of urea varies greatly. In some instances it is considerably increased beyond the average for a time. As kidney action fails it diminishes.

Albumen is found in small quantity, often the merest trace, at some time or other in nearly all cases. This is true at any rate of such as are examined on account of symptoms. Where symptoms, referrible to kidney lesion, become more prominent it tends to persist and the quantity may increase markedly. Early in the disease the appearances of albumen may be at such intervals or in so small quantities that any but the most careful and exhaustive examinations will fail to detect it. The minority of cases in which albumen is never found is small and the results of microscopic examination should suffice to put one on the right track.

Indican is often present in excess. It is of importance to make this test. It is quite within the possibilities that a chief factor in the starting production of arterio-sclerosis is absorption of toxic matters from the digestive tract which, acting locally to begin with, finally bring about widespread faulty metabolism. Indicanuria is taken as one of the chief signs of this condition of affairs. The corresponding compound skatol is also found in some instances.

The Microscope.

For microscopic examination where arterio-sclerosis is suspected, the solid matters of urine should be thrown by centrifuge. In the ordinary process of sedimentation by standing in a tube for 24 hours much that is of the greatest importance and interest will fail to drop. Objection has been taken to the centrifuge on the ground that it gives us as sediment that which is not to be regarded as pathological unless falling by its own unaided gravity. Extended experience shows, on the contrary, that without it much may be missed which it is of vital importance to discover. The sediment in the urine of arterio-sclerosis exhibits some elements so constantly and increasingly as the disease progresses that taken along with the symptoms even though they be few, its examinations should be of the greatest possible use as an aid in diagnosis. The findings in advanced kidney cases and in those much less damaged are often practically the same, although different elements preponderate in different cases. Hyaline casts are prominent and may be few or many in numbers. The more marked the kidney aspect of the case the more numerous are the true hyaline casts. Cylindroid are *always* found and the less the kidney is involved the more numerous the cylindroids relatively to true casts. Study of these elements will, I think, convince one of the close relationship between them, the one apparently passing over into the other. Both are the result of irritation, and whilst the so-called *true* hyaline cast appears to lose something of

importance the cylindroid gains from widening experience. The *constant* presence of cylindroids alone is a very sure indication of vascular mischief which may end in marked sclerosis. Epithelial cells of various forms are often present but are of no special diagnostic value, as it is usually impossible to tell from what part of the urinary tract they come. Blood cells, both free and adherent to or embedded in casts or cylindroids, are seen sooner or later in most cases. In oxaluric patients even before it is at all likely that arterial change has made any considerable progress it is not rare to find blood cells embedded in cylindroids ; much less frequently does this occur where uric acid is the crystal.

Crystals of both oxalate of lime and uric acid are common in these cases. Their persistent recurrence should be considered as important.

In the above we have the sedimentary elements which call for most attention in the urine of arterio-sclerosis. You will see that I have confined myself practically to a qualitative analysis of the urine except in so far as urea is concerned. Undoubtedly the solution of many of our difficulties in connection with the disease, whether considered as a general or local process, lies in far more elaborate chemical investigation of the urine and other excreta than our ordinary clinical facilities will permit of. It is impossible to doubt that errors of internal chemistry suffi- to give rise to changes so disastrous as are those under consideration should not be represented in some detectable measure in the secretion of the kidneys. Results and processes heretofore have not been of great practical value to the practitioner and are quite outside our time limits even if I had the knowledge and skill to speak of them.

Symptoms.

The symptoms in arterio-sclerosis which would naturally be referred to the kidney are those classed as uraemic. When we inquire what is uraemia then difficulty begins. It is quite impossible to believe that all of the symptoms of uraemia are the result of the partial failure to excrete or secrete or both, on the part of the kidney. We are forced to think of the more or less diffuse character of the vascular lesions and of the consequent manufacture and absorption of poisons which would have at least some part of their effect irrespective altogether of kidney action. Whilst then the term uraemic is useful so far and until our knowledge is more accurate, it should not be allowed to lead us away from the widest possible view in the matter. Occasionally certain special phenomena such as blindness from hemorrhages in the retina or manifestations of improper heart action—may lead to discovery of serious kidney change and thus, in a sense, may be called symptoms of it ; but

here again we must remember that they are indications of vascular changes in these organs themselves and in the circulatory apparatus generally.

In closing let me state briefly the two chief conclusions that I have reached in a clinical and laboratory study of arterio-sclerosis looking specially to its kidney relations.

1. We must not allow attention to be fixed upon the changes in one organ to the exclusion of consideration of parallel changes in other organs and the vascular system generally, and this specially if we are to arrive at correct views as to causation and treatment.

2. Examination of the urine can be made of great value in any case of arterio-sclerosis even when incipient.

CEREBRAL ASPECT OF ARTERIO-SCLEROSIS.*

By H. A. McCALLUM, M.D., M.R.C.P., LOND.

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PHYSICIANS of the past generation had spoken of arterio-sclerosis under the head of "brain softening." When attributing this condition to arterio-sclerosis with its accidents one must not forget that defective metabolism and altered blood are precedent conditions or causes and their destructive process may be as readily spent upon the parenchyma of organs as upon vessel walls. Alterations in the cerebral neurons arising from the same cause as arterio-sclerosis may keep pace with the changes in the arterial wall. This is to be kept in mind as an explanation of the mental and sensory symptoms found in the early and late stages of arterio-sclerosis. So many theories in medicine based upon the cardio-vascular system have perished that it is difficult to commend any enthusiasm for theories of pathological phenomena so based. Leaving all theories aside, thickened arteries constitute an index to a variable clinical condition. Arterio-sclerosis has a tendency to spend its worst storm upon certain vital organs. Brain vessels may be diseased without much determinable evidence elsewhere. Syphilitic arterio-sclerosis may produce nodular changes in the circle of Willis and sylvian arteries while sparing the rest of the arterial system within the skull, thus showing a very selective action of the syphilitic virus.

The changes due alone to cerebral arterio-sclerosis can be classed as (a) cerebral anaemia, local or general, arising from diminished vessel lumen with or without thrombosis; (b) cerebral hæmorrhage.

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The result of local anaemia are variable, depending upon the situation and its completeness. Thrombosis of a terminal artery generally gives rise to an area of local softening. General brain anaemia arising from arterio-sclerosis without vessel plugging is said to give rise to attacks of vertigo, fugitive motor and aphasic symptoms. Transitory paralysis of motion and speech, while very suggestive of syphilitic arteritis, is not peculiar in luitic patients. It is the warning signal of conditions of thrombosis whose onset may follow these warnings with all the clinical picture of an apoplectic stroke. The cerebral anæmia affecting the medulla is a cause of hightened tension in arterio-sclerosis. Cases of arterio-sclerosis, unaccompanied with renal cirrhosis, showing considerable increase in tension, should be suspected as marked cerebral types of the condition. The increased blood pressure, being called up by the cardio-vascular centres in the medulla, overcome the diminished lumen of the cerebral arteries. I shall return again to this question of cerebral anaemia and high tension under the head of cerebral hæmorrhage. Arterio-sclerosis of the vessels supplying the medulla have been charged with the causation of Cheyne-Stokes respiration, Adam-Stokes syndrom and a form of pseudo-bulbar paralysis.

The most common motor symptom of arterio-sclerosis is hemiplegia, with or without aphasia. As pointed out before, the transitory hemiplegia or aphasia is significant of empending thrombosis, and its occurrence, in a syphilitic subject, should be met by heroic doses of iodides and free mercurial inunctions. Alternating hemiplegia from arterio-sclerosis is not unknown. I saw a case under the care of Dr. Hurlburt, of Mitchell, who had had paralysis of the left arm two days previously. On the day of my visit, the left arm was virtually recovered but the right arm was completely paralyzed. There was no cardiac disease. The urine showed a trace of albumin and casts. At my visit his condition was not serious but, two days after, he became suddenly comatose and died in a few hours. While the case may have been uræmic paralysis, I am inclined to look on it as arterio-sclerosis terminating in thrombus.

As pointed out by Sir William Gowers, cerebral thrombosis may give an exact clinical picture of apoplexy. In cities, where syphilis is common, the majority of cases of hemiplegia surviving the first week are thrombotic. This was well expressed by a well known neurologist who said: The post mortem statistics of general hospitals show that the majority of cases of hemiplegia are due to cerebral hæmorrhage, while post mortem statistics of nerve hospitals show that hemiplegia in the vast majority of cases is due to thrombosis. These apparently contradictory statistics point to the frequency of early death in cerebral hæmorrhage and the chronic character of thrombotic cases.

We now come to the consideration of cerebral hæmorrhage. Bouchard and Charcot, in 1866, pointed out that rupture of a miliary aneurism is the cause of cerebral hæmorrhage. This view of cerebral hæmorrhage, harmonizing with the noticed vessel condition of hæmoptysis, is being generally accepted by neurological authorities. It may not explain all forms of hæmorrhage; indeed, there is evidence that in the cerebral structure, adjacent to new growths, softening may weaken a vessel and rupture occur without antecedent aneurismal dilatation. I might remark, while passing, on the frequency of hæmorrhage into and surrounding new growths of the brain, constituting not infrequently a terminal condition. The form of apoplexy known as ingravescent is of great interest. It is onsetted with fugitive symptoms, but unlike those that precede thrombus, they are neither hemiplegic or aphasic but rather the symptoms of shock, viz:—"The face becomes pale and the body cold and the pulse very weak, faint and exhausted he may fall to the ground," or "Have a slight convulsion after a little he may walk home; he is quite sensible but oppressed. Then he becomes flushed, he answers questions slowly, and gradually he sinks into coma from which he rarely recovers." Fagge attributes this picture and its terrible fatality to thrombosis and declares that all subsequent writers have recognized the truth of it. It is the frequent picture of meningeal hæmorrhage of traumatic origin and is of great medico-legal interest.

English pathologists invariably refer to the frequency (about 80 per cent.) with which granular contracted kidney and arterio-sclerosis are associated with cerebral hæmorrhage. Continental authorities seem not to have found the kidneys cirrhotic in anything like a similar proportion of cases. The effused blood in cerebral hæmorrhage encroaches upon the blood supply of the brain through increased intracranial pressure. This necessitates increased arterial tension to force blood into the cranial cavity. The tension will mount with the increasing intracranial pressure. This mounting of arterial pressure serves to help diagnose apoplexy from other forms of coma. Any form of acute compression, threatening to produce anæmia of the medulla, will be attended by a rise in blood pressure to restore the local circulation. The local anæmia, however, may become so severe as to lead to failure of the vaso-motor centres and a rapid fall of blood pressure. The respiratory centre becomes likewise embarrassed. (See Harvey Cushing's article on "the blood pressure reaction of acute cerebral compression, illustrated by cases of intracranial hæmorrhage," *American Journal of Medical Science*, June, 1903. See also Mutter's lecture in *American Journal of Medical Science*,

1903, Vol. cxxiv., page 393.) While passing, I might mention the great value of Babinski extensor great toe reflex as a diagnostic sign, separating apoplexy from other sudden comas. The immediate appearance of Babinski's sign after cerebral hæmorrhage makes it of great value. I saw with Drs. Hadley Williams and McLaren, five hours after a runaway accident, a comatose patient with a view to operation. Babinski's sign was present in both feet, accompanied with forced movements on the right side The left side was flaccid and gave the most marked Babinski sign. The patient was trephined over the right middle meningeal artery and a large subdural clot found and removed. The opinion held before operation from the double Babinski's sign that the hæmorrhage was bilatual and extensive, was shown by the temporary character of the improvement and the death of patient the following day.

Before leaving the subject of cerebral hæmorrhage, it has often been a subject of interest whether there are persons of peculiar build or body habit who are particularly prone to apoplexy. It would seem to amount to this :—Do cases of cirrhosis of the kidney show peculiar build or body habit, for it seems that the vast majority of cases of apoplexy are cases of renal cerrhosis? Apart from this line of argument, clinical statistics will show cases of apoplexy to be very frequent in those of spare frame. It would far exceed my allowed time to enter into the mental and sensory side of arterio-sclerosis. The meaning of the term "brain softening" to the laity show how frequently mental symptoms attend on arterio-sclerosis. The relation of arterio-sclerosis to testamentary capacity is of interest to the medical expert. In the treatment of the cerebral type of arterio-sclerosis the entire body must be considered before treatment is instituted. The patient should be examined from head to foot in the naked state. The state of nutrition of the skin, muscles, and the amount and position of the cutaneous fat constitute inarticulate speech to the experienced eye. The normal disposition of the female and male fat are very different. The former carries her fat in the breast, buttocks and upper half of her four limbs, particularly the legs. The rest of the body in most cases is avoided in this warehousing in the female. The male warehouses his fat on the neck, between the shoulders, and in the abdominal cavity. The female, after the climacteric, has a tendency to take on the male type in fat disposition; but where one sees any well marked type of this departure it will be found to be accompanied by arterio-sclerosis. In male patients, a departure towards the female form of fat deposition, viz., on the limbs and buttocks, is of similar significance. It may be said that these pathological cases of fat disposition is an attempt to revert to the type seen in the

child. These cases of arterio-sclerosis require massage, baths, careful dieting and regulation of out door exercise. They are always anæmic and this feature is not unfrequently overlooked, because the skin of their faces looks rosy. In syphilitic cases of cerebral arterio-sclerosis iodides and mercurial inunctions should be given heroically.

In the non-syphilitic, hypodermic use of artificial serums have given, in some hands, good results in cases of vertigo in arterio-sclerosis. Trunicek's salts (soda chloride, soda phosphate and magnesium phosphate, made into a solution 10 times as strong as in the normal serum; dose of this 1—2 C C hypodermically) have been given and supposedly good results occasionally obtained. Trunicek's salts can be given in tablets several times a day by the stomach.

EYE SYMPTOMS IN ARTERIO-SCLEROSIS.*

By J. C. CONNELL, M.A., M.D.,

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CHANGES in the retinal vessels as a result of arterio-sclerosis are seen with comparative infrequency, though they are not so rare as was formerly supposed. Roehlman found visible changes in twenty-four out of forty-four cases of arterio-sclerosis. Disturbance of function is not always present, and, in the absence of subjective eye symptoms, no doubt many cases escape observation. When vision is affected the reduction varies from slight fogginess to complete binocular blindness.

The changes to be seen by the ophthalmoscope are: (1) Pulsation of arteries and veins. (2) Tortuosity and attenuation of the vessels; (3) white streaks along the margins of the larger vessels; (4) hemorrhages; (5) rarely, a beaded appearance of the smaller vessels is seen, due to the formation of small aneurisms.

The third symptom mentioned—the formation of white streaks or lines along the margins of the larger vessels—is thought to be pathognomonic of senile arterio-sclerosis. It may, however, be very difficult to differentiate this from the somewhat similar appearances which follow neuro-retinitis. In the latter condition, however, the calibre of the vessels is not usually constricted as it is in arterio-sclerosis.

Pulsation of the vessels is most likely to be seen early in the course of the disease when the arterial tension is high. Several varieties of of abnormal pulsation are seen, but the most common resembles a rhythmic wave, beginning at the papilla and spreading out over the retina. The pulsation is produced by a difference between the intra-

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ocular tension and the general arterial tension. The most marked cases of pulsation I have seen have been associated with aortic insufficiency.

Tortuosity of the vessels is most noticeable at points where vein and artery cross, and it is at these points that hemorrhages most frequently occur, and that the pathological processes are most marked. Lateral displacements and flexions are more common than real changes in calibre.

The changes in the retinal vessels consist of connective tissue formations complicated with degenerative processes which affect the intima and result in thick, rigid vessel-walls. The media is thinned and shows hyaline degeneration, while the adventitia is thickened. The smaller vessels show greater changes proportionately than the larger ones. Constriction is present in those portions of a vessel which remain hard, and where softening takes place the wall yields and forms an aneurism. This process in the veins causes a spindle-shaped varicose appearance.

All these conditions are present more frequently and extensively in the choroid, but their demonstration is rarely possible with the ophthalmoscope.

Bader describes the process as a thickening of the walls of the small arteries of the retina and choroid by a homogeneous, strongly reflecting, not quite transparent substance. Consequent upon these alterations in the arteries and upon the hemorrhages, are degenerative changes, fatty degeneration of nerve fibres, infiltration with round cells and separation of the fibres by hyaline fibroid material. This explains the loss of vision.

Hemorrhages, both flame-shaped and irregular, may occur at any stage. The larger hemorrhages are likely to be at points where the veins and arteries cross, as already stated; the smaller flame-shaped ones at any point in the nerve fibre layer of the retina.

Several cases in elderly people have come under my notice in which small sub-conjunctival hemorrhages, developing without apparent cause, have been the immediate reason for the consultation. The conjunctival lesion appeared trifling, but examination of the fundus showed an advanced arterio-sclerosis. One of these patients died suddenly a short time ago while taking a cold bath.

The recognition of arterio-sclerosis of the retina is of value, as it indicates similar disease of the cerebral vessels. This indication may be regarded as positive even when the vessels of the general circulation are apparently unaffected.

To the oculist the information is important as it affects the indications for treatment of concurrent eye lesions and the prognosis in operations.

My experience also leads me to believe that epistaxis in old people, without apparent cause or after violent emotion, must be regarded as a symptom of incipient arterio-sclerosis, *i.e.*, it occurs in a pre-sclerotic stage when the only recognizable symptom may be the heightened arterial pressure. Later on the attacks diminish in frequency, when there is lowered blood pressure and lessened cardiac activity.

THE THERAPEUTICS OF ARTERIO-SCLEROSIS.*

By JOHN L. DAVISON, B.A., M.D., C.M., M.R.C.S., Eng.
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AN imperfect supply of Arterial Blood is so universally harmful to the animal economy, and so far-reaching in its effects, that the possible alleviation or cure of a disease of the arteries, upon the integrity of which depends the blood supply to every part, can only be considered as one of the greatest importance. Accidents and infections barred, death generally comes through Arterio-Sclerosis.

To begin at the beginning, I hold that young persons of both sexes should be taught that over-exercise is just as baneful, in a different way of course, as under-exercise. As to the latter, there are not many children who do not play naturally, as the lambs do; and the tendency in civilized nations with highly differentiated sports, is altogether in the direction of over-exercise. True, in early youth and adolescence, the safety valves are in such excellent condition that even a certain amount of abuse of the machine-engine seems to leave no permanent impairment. But too often the mechanism is taxed beyond what even young healthy flesh and blood can bear without injury. The spur of competition in games, among the young men of to-day, leads to a strain, especially of the heart and arteries, which makes itself felt, not only at the time, but all through life. Just as alcohol acts, partly by exciting too strong action of the heart, so undue, prolonged, or severe exercise induces sclerotic changes in the arteries; and young athletes are "old men" as to their arteries by the time they are 25. Life Insurance Companies look with disfavour on athletes as applicants for whole life policies, knowing that often in the dust of the arena, is laid the foundation of future and early disease of the organs of circulation, with the inevitable shortening of the expectation of life. A case in point. Not long ago a young man, a school teacher, aged 23, applied for life insurance. It fell to me to examine, and decline him. He could not realize that he was not a gilt-edged risk. He was a power on the football field, and a well-known athlete. But, heredity aiding perhaps, he was about 60 or 65 years

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years old according to Cazalas rule, though he had seen only 23 summers. Indeed I have examined many men of 55 or 60 whose arteries were younger than his were.

I need not enumerate the signs: hypertrophied heart; tortuous and degenerate arteries; displaced apex beat; accentuated second sound *et al.* They have all been enumerated. Such persons are hard to treat. It requires time, tact and patience to get them to understand that they are not what they have always thought themselves, "In the pink of condition;" and accidents barred, reasonably sure of a long active life. Pity it is also, that the young men who thus cripple themselves in early life are the ones who have the most pluck, stamina, earnestness and energy, and should therefore, make the best, and most progressive and useful citizens.

So much in brief from Prophylaxis in the early period of life, when the abundant energy overdoes the natural instinct of the young animal to play. We now naturally come to the consideration of over-work in the ordinary affairs of life. The fact that men especially, and not a few women, habitually overwork themselves is patent to every physician. The expression, "The Strenuous Life," has become trite even in its short life, but it expresses exactly the condition under which a great majority of persons living under the newer civilization exist. Constant teaching is needed to impress the truth upon them that the strenuous life kills early. Even when the truth is borne in upon the combatants, the struggle goes on as fiercely as ever. Here and there *one* has sense enough to realize that wealth, titles, office decorations, etc., without health are not to be desired; and that the sheltered life is the one which makes for the true happiness of the individual—that John Tompkins with a good digestion is really happier than Jay Gould with apepsia.

The temperament, of course, has much to do with arterio-sclerosis. The slow-moving, phlegmatic individual, does not weaken and exhaust his nervous force by allowing trifling irritations to produce great activity, and thus wear out the circulatory apparatus; while the active, sanguine, nervous man puts his heart and blood-vessels to do superfluous, and for the most part purposeless work, inducing early senescence. So a part of your duty will be to teach your patient to cultivate the *festina lente* and cheerful habit of kind, contentment, and self control. I have said enough to direct your attention to the duty you owe to your patients and fellow-citizens, in speaking in season and out of season, against the fierce struggle for wealth and supremacy. The millions may come—not however, to many, though the struggle be for all—but with little power to enjoy them.

Temperance.—It is given to few persons to have the natural, normal balance, which causes them to lead temperate lives. We have been

accustomed to think of temperance, as the very limited use, or total abstinence from alcohol. Now, while no body of men have more reason to deplore that terrible scourge the abuse of alcohol than physicians have, so also, no other body should so fully realize that temperance runs along other lines than abstinence from whiskey consumption. Intoxications take place from too much nitrogenous food, from constipation, from mental worry, from over-work, from tobacco because of a jaded and worn out nervous system, from the exigencies of social life, etc.

I do not speak of uric acid, that scapegoat in medicine, which some of our brethren used to demonstrate to admiring patients in their blood, by means of a pocket lens. Recent investigation discredits this product entirely as the causative agent in gout and so in arterio-sclerosis. In THE LANCET of January, 1903, Professor Woods Hutchison shows "that uric acid is no loger regarded as a product of the improper combustion of proteids into urea," also, "that uric acid is innocuous, and that variations in its excretion are purely symptomatic." This is a blow to many a practitioner who gives uric acid as a cause for hosts of complaints of which the pathology is nebulous, from ingrowing toe-nails to appendicitis; all going to show that we still as in the days of Job, "darken counsel by words without knowledge."

I fear that there is much intemperance of a sexual nature; and that sexual neurasthenia is quite common, both among men and women. At any rate we know that intemperance along any line tends to arterio-sclerosis—here again phophylaxis is of much more importance than drugging.

I need proceed no further in this direction, having briefly called your attention to the necessity of practising temperance in every phase of life, if the sum of years is to be complete, and the machine to do its best work to the end of the chapter.

To speak more definitely, let me urge that the patient suffering from this disease should live a quiet, well regulated life, and avoid excess of everything, eating, drinking, pleasure and excitement of all kinds. Alcohol should, in my opinion, be interdicted, though some physicians think light wines may be allowed. I would like to say, that in the vast majority of cases where the patient takes a stimulant, it is the alcohol he is after, and not the particular flavour which he may enjoy more or less, and it is the alcohol that does the injury whether it be in the guise of beer, wines, spirits or liqueurs. I do not deny that the use of light wines is less injurious than that of heavy spirits, but the difference is largely due to the diminished amount of alcohol taken.

As to Food. It should be light and easily digested, so that no irritating products formed from decomposition of meat nutrition, whether

uric acid or xanthine bases, or poisonous ptomanies, shall act upon the vessel walls stimulating them to proliferative processes, or anatomically injuring them as do lead, ergotin, etc.

Rumpf advocates a diet low in lime salts. His suggestion is one which does not include milk. It is meat, 250 grm.; potatoes, 100 grm.; bread, 100 grm.; fruit, 100 grm.; fish, 100 grm.; along with butter and sugar. The patient may take vegetables instead of fruit, but is not allowed cheese, eggs, rice or spinach. This diet contains ten times less lime salts than a meat diet. He allows only distilled or boiled water as a beverage. It would seem that this plan of Rumpf's is reasonable, if the arteries show signs of calcification, but arterio-sclerosis is not necessarily calcification, and so every case would not come under this line of treatment. It has been observed that certain diseases, notably epilepsy and arterio-sclerosis, are rare, if not quite absent in herbivorous animals. The hint is taken and I believe with good results in respect to the treatment of epilepsy—why should it not be taken in regard to arterio-sclerosis, and a vegetable diet prove equally prophylactic and curative as in epilepsy? Unfortunately the large ingestion of vegetables would tend to the deposition of lime salts. So it seems that there is no rule which will apply to all cases and at all stages, except this one: less food and of a bland, unirritating character, easily digested, in other words, temperance again in the matter of food.

Now as to Syphilis. May I say that I think the symposium at some future meeting of this society on the old subject of enthetic diseases would be productive of much benefit. We all see syphilis mentioned constantly, as present among us, and as causative of many and varied lesions, especially in the nervous system. But I think a heresy has crept in during the past two decades as to the necessary treatment of this disease. Owing to imperfect therapeutics, the awful effects of syphilis shew years after, and I have no doubt that every one who hears me has seen pitiable cases of ruined lives which might have been spared as useful and happy ones had the necessary care and time been taken in the early treatment of the disease. By early treatment I mean that of the first three years after infection. The heresy, to my mind, is that Johnathan Hutchinson's old rule of three years of mercury and iodide of potash; then six months of iodide of potash; then,—no signs, marriage allowed has been abridged with deplorable results, both to patient, his wife and offspring. Of course, the therapeutics of syphilitic arterio-sclerosis are the therapeutics of syphilis. I might as well say here, that the drug treatment of the syphilitic process, necessitates the free use of mercury, preferably by inunction, and iodide of potash internally.

When a patient gets near the end of the chain the question often arises as to spas and mountain air, etc. I can only say that there is a great volume of testimony regarding the benefits which arise from such treatment. I have known of at least one case of angina pectoris, which was given up by specialists in New York City, recover a fair amount of comfort, with an additional margin of life, by a stay at Bad Nauheim, with graduated exercises and modified Schot movements. The question is too large to enter upon here, but if I ever have a case of arterio-sclerosis which seems absolutely hopeless, I shall recommend Nauheim, if the purse will allow.

Altitude. Generally speaking, persons suffering from arterio-sclerosis do not do well at even a modern elevation, and all high elevations are positively dangerous.

I can not enter upon even an enumeration of the remedies and methods of treatment for arterio-sclerosis of the brain, heart, kidneys, etc., which while pertinent to my subject, properly belong to treatment of diseases of these organs respectively. It is left to me to say a few words as to the drug treatment of arterio-sclerosis *per se.* And fortunately for your patience there is but one class to which I need refer, viz., the iodides. It would be interesting to be able to say why and how these remedies give such good results, but with our present knowledge we must be content to use them empirically, nothing doubting that their long continued use will result in good to the patient.

Lauder Brunton, in his lectures on The Action of Medicines, a most admirable and helpful work let me say, something after the style of Fothergill's masterpiece of book teaching, his Hand-book of Treatment has two or three pages which are worth being committed to memory in this connection. He shows that iodide of potash given continually for months and years for other diseases, such as rheumatism and stiffened joints, effects wonderful changes in the arteries. He also shows the very beneficial effects of baths and massage in the same direction.

These iodides, the "medicines of the arteries" as they are called, must be exhibited for long periods of time in order that their beneficial effects may be seen. When the potash salt unduly reduces the heart's action, the sodium salt may be used. They should be given in fairly large, but not heroic, doses, say 10 or 20 grains well diluted before meals. Milk forms a very suitable vehicle for their administration. Some practitioners prefer tincture of iodine in doses of 10 minims in sweetened water before each meal. The advantage of the tincture is said to be that "the iodine selects its own basis and thus in no way irritates the stomach or degenerates the body."

SOME BUSINESS ASPECTS OF MEDICAL PRACTICE.*

By DR. N. A. POWELL, Toronto.

MR. PRESIDENT AND GENTLEMEN,—In all the twenty-three years' existence of this association, the subject of the financial results of medical practice has never received formal consideration. When this fact was innocently mentioned by me a short time ago at a meeting of your committee on papers and business, that puissant body passed an order-in-council making me responsible for the presentation of this question before you. In spite of my objections and my suggestion of others for the honor, the committee next found a place for my name on the preliminary programme. When it so appeared, a certain person, whose advice I often receive, and perhaps not quite so often adopt, enquired with airy sarcasm if the chances for one's being selected to read a paper before the O.M A. was in inverse proportion to one's knowledge of the subject to be taken up. I side-stepped her question then, but in the privacy of our closely tyled session I freely admit that, like certain medical examiners we have known, I may ask questions for which I have no answers ready.

For more than a quarter of a century I have been watching the course of medical men in practice, and trying to ascertain the causes of complete or partial failure in those who might reasonably have been expected to have been successful. Many die leaving no provision for those dependent upon them, others become medical derelicts, floating half-submerged, useless to themselves or to the world, and a positive danger to all who approach them unguardedly. A third, and always a larger, class have simply been disappointments to all who, in earlier years, had builded hopes of success for them. I present to you no statistical study, but give you instead certain clinical impressions, and shall ask how these accord with what has fallen under your own notice in watching the drift of medical life.

When I first entered practice I think it could be safely said that the larger proportion of those who did not succeed owed their failure to the use of alcohol. That is not so to-day ; the profession to-day is moderate in the use of liquors, as a result of increasing self-respect and self-control ; misuse of them is, in consequence, a factor having far less importance than it had even a few years ago. The doctor who now drinks to excess cannot keep the pace, and must go down and out more rapidly than of old. In this country twenty-three may be taken as about the average age for entering practice, and fifty-three as the age of death for

* Stenographic report of an address delivered before the Ontario Medical Association, Toronto, June 18th, 1903.

physicians as a class. This gives us thirty years as a period within which success is to be won or lost. The time and money expended in obtaining an education and gaining a practice will represent not less than five or six thousand dollars. Since most Canadians are comfortably poor at the start, or at least are free from the paralyzing influence of wealth, we may estimate that it will take four years in the country and eight in the city for the average graduate to have cleared off all arrears of debt and reached a self-supporting basis. The modern physician, it must also be remembered, is a highly evoluted individual, with tastes that must be satisfied, and needs that must be met, in addition to the ordinary living expenses of himself and of those dependent upon him. Such provision for age and sickness as every prudent man sets about making must also be taken into account.

It has been said by some one that for an ideal practitioner there are three requisites: First, he must be a thorough gentleman; second, he must be a thorough physician; and, third, he must be a thorough business man. I believe that the third is the attribute most frequently lacking, and in this lies the cause of most failures.

Let me ask your attention to a few points which appear to suggest the cause of some failures. One difficulty our craft meets as many others are meeting it—the demand for first-class pay by those only able to do third-class work. That is the trouble in all other Unions as well as in ours; however, we have no walking delegate to come around and say, "This man who has made a botch of the case must be retained. You shall not discharge him and employ a better man in his place." (Laughter).

I think it is bad bnsiness for a physician in general practice, making an income of, we will say, over $3,000 in the country, or $4,000 in the city, to attempt to be his own book-keeper. His time is, or ought to be, too valuable for such work. If he tries to do so he will have to take the time either from his patients, or from his own needed rest and recreation. The best book-keeper he can possibly have is the one who has shown either that she had sufficient confidence in him or that she had sufficient confidence in her ability to manage him, to have married him. (Laughter.)

Year by year the world's work is passing, in larger and larger proportion, into the hands of women. They have long had more than a working majority in our churches. Some one puts it this way:

> "In the world's broad field of battle,
> In the bivouac of life,
> The average Christian soldier's
> Represented by his wife."

I do not say that this is right, but one cannot deny that it is so. Personally I am in accord with George Ade when he says, "It is a poor plan for a man to expect to slip through St. Peter's turnstile on Ma's ticket. (Laughter.) But no one else can take the same interest in a physician's books as the right sort of a wife—if only she be trained and trusted.

Accounts more than six months old in the city are far better handled by a collector—an honest, kindly and tactful man—than by the practitioner himself. Such a one collects money which would otherwise never be obtained, and more important still he helps to weed out the people who are able to pay and won't—always the most unreasonable and exacting of patients. In the country it is a most valuable plan to try and get all accounts of a year's standing closed by notes. This will seldom be objected to if the notes are drawn, "without interest if paid when due; otherwise, with interest, until paid." The addition of interest hurries up the payment. I did some years of country practice, and without having recourse to the courts, excepting once to vindicate a principle, I was able to collect 92 per cent. of all accounts on my books—a fair and reasonable proportion. Knowing the circumstances of one's patients, the charges can be made right to start with, and discounts never given excepting on account of poverty.

Another thing, in my opinion it is bad business for a man to neglect his correspondence, or to sit up late into the sleeping hours with it and his other writing, when by the combination of a card index system of case-histories and chest charts, a vertical filing system for correspondence, and all other records, a type-writing machine, and a stenographer coming in for a few evening hours each week, he can keep his writing not simply up to date, but up to the hour. So few physicians seem to appreciate the value of such modern aids to rapid and accurate work that I have thought it worth more than a passing reference. The necessary outlay is almost trifling, and by such a combination one is aided in obtaining that *maxima par eruditionis*, which may be taken to mean the art of knowing where any desired information can be at once found. I had a compliment paid me along this line recently; two friends were in consultation. One made an observation, and the other asked, "How do you manage to carry such things in mind?" The other replied: "I do not try to do so. When I want a thing I 'phone Powell, and he looks it up while I hold the line."

When a man has within him the potentiality of success *without* lodge practice, I believe it is bad business to ever touch lodge practice. (Applause.) The late Dr. George Wright, a conscientious man in practice if ever there was one, said to me in an almost pathetic way, "If I

had only left lodge practice severely alone, and given the time it took to study, and to cultivating the practice I wanted to keep, it would have been far better for me." As a rule we get the value we challenge for ourselves, and lodge practice tends to lessen a man's fee-earning power and to handicap his future. Granting that there may be present an urgent need for keeping the pot boiling, if this is done by using lodge practice as fuel, it will, in the long run, prove even more expensive than coal did last winter.

It is bad business not to be, and to keep, good friends with our medical neighbors. Some are not easy to live with; this for the reason that lineal descendants of Ishmael, of Ananias, and of Caliban, occasionally drift into the medical profession, and make trouble for us. After differences, they are ready to make up and bury the hatchet—but they take care to leave its handle sticking out. (Laughter.) No honorable physician can fight with their weapons; he would have no better chance than a clawless cat in Hades. Perhaps the best way is to strive for that height of calm philosophy which will enable one to consider the annoyances they cause, as being purely educational.

Every medical man needs and should have one or more fads. How shall we define a fad? We must make the attempt since Plato has told us that there can be no rational discussion without a definition. Fads, according to my friend, Dr. J. L. Davison, are "mental antitoxines which overcome the poisons generated by cerebral over-activity." (Applause and laughter.) The best of these, in my judgment, are shooting, fishing, photography, and canoeing, but a score of others may be named for second choice. Even that refuge for senile decrepitude known as golf has a field of usefulness. Some of my friends, infected with the virus of this game, seem to think its field is a prairie.

It is bad business for a physician to go without a fairly long annual, and a number of week-end, or other interstitial holidays. No grass growing under his feet means only too often an early crop growing over his upturned toes. From labors so exacting and imperative as his, duty to himself, to his family, and to his patients, requires that he should take the prescription he so often gives to others, and should seek rest and change. His holidays should be arranged for, insisted on, and always taken. Our great dramatist has said that—

> "Universal plodding poisons up
> The nimble spirits in the arteries."

Happy the man who heeds the warning, and for whom, as Thoreau said, "The woods are full of solicitations."

It is bad business, it seems to me, to drop behind the procession for want of a good working library. Two or three good journals are

absolutely necessary. In addition to these the purchase and right use of the latest and best work, first in one specialty, and then in another, will help wonderfully to keep a man out of the ruts. Now, what do we find in the office of the average physician, let us say, down in Kentucky? Things are better here, of course. If there were any Kentuckians here I would say, down in Tennessee. Out-dated text-books, journals bound up and never opened after they come back from the bindery, and subscription sets forced by glib-tongued agents upon their unfortunate purchasers. Only this and nothing more! What wonder that such a library, so-called, should become a factor in the failure of its owner rather than an aid to his success.

Trying to do modern surgery with an archaic outfit, or to do modern practice in offices unattractive, inconvenient, miserably equipped, dirty, disagreeable, and depressing, are causes tending strongly towards failure.

Let me ask a plain question: Is a man honest with himself or with those who trust him, when he attempts serious surgical work with outfit and preparation inviting disaster? If stinginess, and not poverty, has limited the equipment, how grave is the responsibility. Look, if you will, into the ordinary obstetric satchel! Is it ready for the conducting of an aseptic confinement, and for meeting all emergencies of child-birth? Let each one of us, when he sits alone with his conscience, and seeks for the cause of a sepsis, answer this question.

Three or four other points occur to me as being elements in failure: want of thoroughness, want of decision, want of energy, and want of tact. The first of these runs through the work of many a man, and is a terrible handicap. Want of decision comes often from unduly considering the effect of what should be done upon one's immediate prospects in practice. It may prevent the right thing being done for a patient at the right time. Arnold said of Sophocles: "He saw life steadily, and saw it whole." I think the physician's attitude should be: determine what is right, and then go ahead regardless of immediate consequences, and looking to the whole life rather than to the present hour. The wise counsel given to the hero Sigurd in the Norse epic may be recalled: "Wilt thou do the deed, and repent it? Thou hadst better never been born. Wilt thou do the deed and exalt it? Then thy fame shall be outworn. Thou shalt do the deed and abide it, and sit in thy place on high, and look on to-day and to-morrow as those that never die."

Want of energy—in other words, laziness—is often constitutional and incurable. The world, Emerson tells us, belongs to the energetic; certainly, no lasting success is to be won except by hustling hard work. But the energy—the push—must be rightly directed. It is the hits

that count not the shots fired. When a small boy, in trying to get through a crowd, I found if I proceeded straight ahead I could make but little progress, but if I put one shoulder forward and used it as a wedge, I got to the front and saw the circus. In war and peace, in medicine and surgery, if one studies the lines of least resistance, and follows these he is most likely to succeed. Some time ago a circular was sent to the successful men in a certain large city asking, Why it is that not more of young men succeed. One answer read, "Because there are so many of them looking for white shirt jobs." There is, however, such a thing as pushing business too far. Quite recently I saw the advertisement of a photographer which read: "Babies reduced to $2 per dozen." We cannot hope to meet a cut like that! (Laughter.)

The next feature to which I refer is want of tact; tact is not the right word, but it comes near it. I mean the discretion which can tell the best thing to say or do, and the best way to say or do it. In theological circles they have a better word than that. An old darkie preacher said, "Brethern, what we want is sanctifigumption." (Laughter.) Devotion to a patient's interests, and good judgment in advancing these interests, would mean about the same thing.

Please do not consider from what I have said that I have wished to convey the impression that success can be measured by the dollar sign. The commercial practitioner thinks of the money first. The true professional practitioner thinks first of his patient's interest, and then he thinks of his proper remuneration. He has got to be paid for his work for he has got to pay others. He has got to protect those at home that he loves, or that he ought to have at home to love. (Laughter.) The love that does not protect its object had better be called by some other name.

I am willing to admit this, that no medical man who is a mercenary man, whose governing principle is mercenary, ever reaches the highest success in medicine, but a man who does not respect himself and make proper collections for the work he is doing, is not doing his duty. A wise man that I knew once used to say, "The quacks get rich, but they go to hell." (Laughter.) My own investigations have not been carried as far as that! (Laughter.)

Character—that all-important thing for every one—consists in a man's steadily pursuing the things for which he feels himself capable. What he loves to do he is likely to do well and successfully. Supporting this view, let me conclude this rambling talk by quoting from Arnold's recently published note-books: "Arise, be going, count your resources, learn what you are not fit for, and give up wishing for it, learn what you can do, and do it with the energy of a man." (Applause,)

INTOXICATION IN APPENDICITIS.*

By EDWARD HORNIBROOK, M.D., Cherokee, Iowa, U.S.A.

MORE than a quarter of a century has elapsed since I read a paper before this learned society. The etiology and treatment of appendicitis was then giving us no concern, for it had not been described and we did not know of its existence. The problem perplexing us then was in what way and to what extent the festive microbe caused or influenced medical and surgical diseases, Joseph Lister, now Lord Lister, had read his paper the previous year, 1876, at Philadelphia, and his writings and researches had aroused interest and stimulated investigation.

The microbe theory was seized upon with such avidity on this continent, that one writer said that the "Medical profession of America had transformed itself into a grand army of bacillus hunters." Many of the books written in the last three decades would leave the impression that there was no medical science prior to 1870, or, at least, that since that period "old things had passed away, and all things had become new."

This view is manifestly incorrect. No reformation or revival has taken place. Medical science has been progressing for ages, but her attitude of observation has changed. For centuries she devoted herself to the verification of symptoms, the research of anatomical lesions, the elucidation of the functions of the various organs and seeking after means for correcting their perversions and curing pathological lesions. During the last thirty years investigation has been principally confined to discovering the causes of disease and finding out the manner in which deleterious agents enter the system.

We now know that the hands of the surgeon, his instruments, sponges and dressings can infect wounds, that the mosquito is the carrier of malaria and yellow fever, that the rat is the disseminator of bubonic plague and the consumptive patient the spreader of tuberculosis. This knowledge and the knowledge of how to prevent infection are the greatest additions to the sum of medical information since I last had the honor of meeting the distinguished gentlemen who were then members of this society.

The germs of many diseases have been isolated, and the means which will destroy them, in the test tube, and inhibit their growth, in the culture medium, have been discovered; but we have not learned how to destroy them in the organism, although serum therapy and recently discovered germicides in many instances bid fair to control their ravages or to mitigate their virulence. These results show how slow is progress even when unprecedented energy has been given to research, and ad-

*Read at the Meeting of the Canadian Medical Association, August 25 to 28.

monish us that the slowly accumulated knowledge of all the ages should not be lightly regarded.

The animal organism in its normal, as well as in its pathological state, is both a receptacle and a laboratory of poisons. Some of these poisons are formed by the organism itself and others by bacteria which may be either guests or normal inhabitants, or may be parasites at second hand and disease producing.

All microbes are not pathogenic. Pasteur isolated seventeen kinds of bacteria in the mouth, some of them serving to assist in dissolving albumen, starch, gluten, and casein. So that we are unable to say how much of the integration and disintegration which are in continual progress and which are necessary to existence is caused or prevented by the action of microbes. Attention being constantly directed to infection and germs creates the danger of overlooking or forgetting the lessons taught by experience, and therefore we might say with Kipling:

"Lord God of Hosts, be with us yet,
Lest we forget—lest we forget."

Lest we forget that the human organism is a manufacturer of toxins and an eliminator of poisons; lest we forget that constant alertness is demanded to prevent accumulation of these poisons, and that if they cannot be eliminated their toxicity should be lessened or destroyed if possible. We all know that the lungs, the intestines and the liver manufacture poisons which will cause death if retained in the system. We know, too, that the liver inhibits, to some extent, the toxicity of poisons formed in the alimentary canal. We also know that the kidneys eliminate the same toxins which are found in the bowels. That the intestines eliminate other poisons besides those which they manufacture is shown by the odor of the fæces of those who frequent post mortem rooms, or dress foul wounds, or are long exposed to the odors of putrefaction.

This function of eliminating toxins, which are not found within the body but reach it from without, may account for some of the diseases of the alimentary canal and its appendages. My son, while studying comparative anatomy, dissected a putrefying dog and had his first attack of appendicitis two days afterwards. Medical students, hospital interne, and hospital nurses seem particularly prone to appendicitis. Sir Frederick Treves says that he examined twenty-seven healthy medical students and found tenderness at the ileo-cæcal region in twenty-four of them.

Bouchard in his work, "Auto-Intoxication in Disease," shows that an aqueous extract of muscle putrified by heat is toxic. I had three cases of appendicitis in one farmer's family who used canned meats

exclusively during the hot weather. A young man ate heartily of meat which had been shipped from Chicago in refrigerator cars. The meat had a slight odor but was not unpalatable. Within three days he had an attack of appendicitis. Others who ate the meat at the same time escaped with a severe diarrhœa.

I realize that these are scanty data upon which to build a theory. I offer them as suggestions which further examination may verify or reject. It seems reasonable that organs which have additional labor thrown upon them should suffer in consequence. If the hepatic secretion is deficient or defective the bile will lose its antiseptic properties. Diseased liver cells will lose their power of inhibiting the toxic action of the intestinal contents. If the intestines are called upon to eliminate poisons which reach them through inhaling foul odors or by the ingestion of putrid, or easily putrescible material like canned or frozen meats, the balance between the phagocytic action of the cells and the destructiveness of the germ will be destroyed.

In the *London Lancet*, June 27th, 1903, (page 1839) there is a communication from Dr. S. Kellet Smith, the object of which is to account for the increase of appendicitis. He says:

"Probably four-fifths of the chief perishable comestibles, are frozen or chilled for transmission or collection before reaching the consumer. Chilled or frozen meat, fish, poultry, rabits, game, etc., are notoriously prone to rapid decomposition when removed from cold store; also they degenerate more rapidly after cooking than unfrozen articles.

Following the argument, it may be that the indigestion of chilled or frozen food especially liable to rapid decomposition may result in a more septic state of the intestine than in the pre-cold storage days, and this greater septicity may in its turn account for the greater virulence of those irritations to which the caecum and appendix have always been prone."

The intestinal canal is a veritable "ptomaine factory and bacterial seminary" and I have long been convinced that the toxic condition of the intestines is a frequent cause of appendicitis as well as a potent factor in causing the high mortality of this disease. We all know that the cases accompanied by constipation are more likely to result fatally than those in which we can procure free evacuation. Every experienced surgeon will admit that the extent of the pathological conditions bears no constant relation to the mortality. The most trifling lesions are sometimes followed by death, while cases with suppuration, extensive adhesions and gangrene will often recover. So that I have often thought that the greater the local expression of reaction, the less pronounced the toxaemia.

Dr. S. A. Brown, a distinguished surgeon of South Dakota, said in a discussion on this subject; "There is something peculiar about appendicitis. I often operate upon cases which notwithstanding the gravest pathological lesions, and expected death the patients make good recoveries; then again I find trifling lesions and the patients die. Last week I opened a peri-appendiceal abscess, drained and thought the patient had nothing to do but recover. Next morning I received a telephone message that the patient was dead."

Dr. Bernays, of St. Louis, says; "In these cases we witness a fight for the patients life between the septic and toxic infection of the blood and other tissues on one hand, and the antitoxic and eliminatory life processes on the other. Moreover we find the struggle made much harder for the organism by a more or less pronounced obstruction of the bowels."

Why is this struggle harder where there is ("obstruction") constipation? Is it not because the toxins are not eliminated? Why is it that Ochsner's starvation treatment is being received with such favor? Is it not because by withholding food we deprive the intestines of material from which to manufacture toxins? Why is it that the late Dr. Clark's treatment of peritonitis by procuring rest for the bowels with large doses of opium has fallen into disrepute? Is it not because that treatment retained the toxins instead of eliminating them? High enemata and salines may clear out the large intestines and yet leave the contents of the small bowel to do their deadly work.

Foreign bodies are so seldom found that they need scarcely be considered as etiological factors. Osler in ten years experience in Montreal found foreign bodies in but two cases. If not caused by foreign bodies why does it commence in the appendix?

Why is the tonsil so frequently first affected in angina? Is the answer to be found in the fact that there is a large amount of lymphoid tissue in the appendix as well as in the tonsils? When the resisting power of the cells is lessened by the auto-intoxication, the microbes attack the most vulnerable points, as the tonsils or the appendix. The vitality of the part being lessened by one attack may explain the frequency of recurrence. The resisting power being reduced, it becomes an easy prey to the pathogenic bacteria which, like the poor, we have always with us.

The bacillus coli communis is a normal inhabitant of the intestines. Dr. Kelly, pathologist to the German Hospital, Philadelphia, found that organism alone in 73.4 per cent. of acute cases.

The toxicity of appendicitis is further shown by the occurrence of multiple abscess, septic embolism, and appendicular black vomit. I had

one fatal case of embolism last June and a fatal case of appendicular hematemesis in July. Dieulafoy reports seven cases and Dr. Fowler of Brooklyn, reports two (see *Medical Record*, April 25th, 1903.) In my case the symptoms of intoxication were pronounced, but the local manifestation was not severe—a pus collection without limiting adhesions. The hematemesis began six hours after the operation and terminated fatally in about twelve hours.

Nitzsche reports a case of this nature in which no operation had been performed, so that hematemesis may occur with, or without operation and should, I think be classed with the evidences of the profound intoxication which sometimes accompanies this disease.

I submit then that intoxication as an etiological factor, and as a concomitant of appendicitis deserves more consideration than it has hitherto received from the profession.

The surgeons who remove the appendix and prescribe rest but do not endeavor to eliminate and neutralize the poisons still remaining in the intestinal canal have performed but half their duty. "Those ought ye to have done, and not to leave the other undone."

The removal of an inflamed appendix from which the infection may spread or is spreading and in which the danger of perforation and gangrene is always imminent violates no surgical principle and is in accord with the dictates of common sense, but the depression of an anaesthetic and the traumatism of an operation when the toxaemia is pronounced may turn the scale against those primary vital forces which are gallantly battling for the patients life.

Bouchard's experiments show that when a sufficient quantity of charcoal had been taken it required the extract of two hundred grammes of fæcal matter to kill one kilo-gramme by weight of rabbit; whereas when the charcoal was not taken it only required 17 grammes. Numerous intentinal disinfectants have been used but most of them are objectionable, either because the stomach will not retain them in sufficient quantity or because they are in themselves toxic. Acetozone is not open to these objections. It is a potent germicide, an efficient deoderizer and an effective diuretic. It has been already shown that the same toxins found in the intestinal canal are eliminated through the kidneys and therefore it meets all the indications-disinfection, deodorization, and elimination.

During the summer of 1902, I treated several cases of cholera infantum by intestinal lavage with acetozone (1 to 3,000) with the most satisfactory results. This disease is by common consent of the best authorities admitted to be of infectious or bacterial origin. During the

last twelve months I have found benefit from its use in numerous cases of intestinal sepsis, as well as in typhoid fever.

Holding the views which I have enunciated as to the etiology and nature of appendicitis, the use of acetozone in that disease readily suggested itself. I have now prescribed it in twelve cases which were treated by myself and have suggested its use in many cases where the patients have been seen in consultation. When it was given from the first the effect was gratifying. One notable feature is, that while it almost entirely deoderized the stools in other forms of intestinal sepsis and in typhoid fever, it has no such effect in appendicitis.

My method has been to give ¼ grain doses of calomel by the mouth every hour during the first two days or until there are copious evacuations. During the same period I order enameta of acetozone 1 to 3000 to be repeated every six hours whether retained or not. At the end of the second day I give one grain of acetozone in two ounces of water by the mouth every two hours. One tablespoonful of the mixture every fifteen minutes. No other fluid and no solid is allowed. If the calomel and acetozone enemata fail to move the bowels, I alternate Epsom salts and glycerine with the acetozone. In nine cases so treated the disease seemed to be aborted and everything except the soreness over McBurney's point disappeared from the fifth to the seventh day. Three of the cases lingered for about three weeks and in each of these the acetozone had to be stopped about the fifth day on account of the profuse diuresis. Some other intestinal antiseptic was substituted. In none of these cases was there marked constipation nor profound intoxication. None were operated upon and there was no pus formation.

I have advised interim operations, for, as I have already stated, I think that inflammation lessens the vitality of the part and renders it vulnerable to subsequent attacks. Of course I do not believe that acetozone is a panacea in appendicitis, nor do I attribute to its action any effect upon the localized inflammation. My claim is that it neutralizes the toxins in the intestinal canal, which are both a cause and concomitant of the disease and that therefore it should be used both before and after the operation as well as when the case does not come to operation.

I still think that proper medication and a prompt operation done before there is a marked intoxication promises the larger percentage of recoveries, but environment and the fears of patients and their friends often prevent us from acting according to our best judgment.

These views are presented in the hope that they will turn the attention of abler men to a phase of the disease which, I think, has been too much neglected, viz., intoxication.

CURRENT MEDICAL LITERATURE.

Conducted by A. J. Mackenzie, B.A., M.B.

THE NATURE OF THE SYMPTOMS IN APPENDICITIS.

In the *British Medical Journal*, July 11th, 1903, there is an article on this subject by James Mackenzie. He claims that if the manner in which sensory and other phenomena arise in visceral disease is properly appreciated then the whole series of symptoms are easily understood though no relation is at first glance apparent.

By means of the sympathetic system of nerves a continuous stream of energy passes from the viscus to the spinal cord. In disease of the viscus an increased amount of energy passes so that when it reaches the spinal cord it affects neighboring cells, acting as a stimulus and symptoms are thereby produced according to the function of the nerve cells as stimulated—sensory, motor or secretory.

The portion of the cord in connection with that part of the sympathetic system supplying the appendix includes the origin of the eleventh and twelfth dorsal and first and second lumbar. The most important nerves that arise from this portion of the cord are the sensory nerves distributed to the abdomen and adjacent portions of the thigh, the motor nerves supplying certain of the muscles of the abdomen and of the thigh, and the motor nerves supplying the bladder. Now when stimulation reaches any part of a sensory nerve in any part of its course from the periphery to the brain, the resultant pain is always felt at the peripheral distribution of the nerve—thus the pain in appendicitis may be felt in the abdomen, in the thigh or in the lumber or illiac region. In this region also the affection may be recognized by hyperæsthesia, a tenderness not due to the inflamed peritoneum, and so showing that the stimulus has passed through the spinal cord. Tenderness of the testicle from the nerve supply of the tunica vaginalis by a branch of the first lumbar is a good example of this fact. Tenderness at McBurney's point is due to hyperæsthesia at small branches of the eleventh and twelfth dorsal which at this point pierce the rectus muscle.

Contraction of the muscles of the abdominal wall and sometimes of those of the limb is an evidence of the fact that the irritation may affect nerves of motor supply; and the writer emphasized the fact that under such stimulus there may be contraction of small parts of these muscles causing marked ridges or thickenings which he believes

are often mistaken for an inflamed appendix. Bladder symptoms belong to the same class, being either increased frequency of micturition or desire to micturate with difficulty in relaxing the sphincter. These symptoms are due to stimulation of the muscles both extrusor and contractor of the bladder wall.

The wide spread of this symptom complex increases the difficulty of making an accurate diagnosis in some cases, but an intelligent view of their causation may lead one to the correct conclusion where there is more or less complete mimicry of some other complaint.

DEATHS AT DIFFERENT HOURS.

"In an investigation covering over 3000 cases in relation to the hour of death," said a well-known physician, who has been himself a student of the question, "it has been ascertained that the greater number die between 5 and 6 o'clock in the morning, when the death-rate is over 40 per cent. of the average; the next during the hour before midnight, when the rule is about 25 per cent. in excess. A third hour of excess is from 9 to 10 in the morning, when the rate is about 18 per cent. in excess. On the other hand, the death-rate between 10 and 3 p.m. is 16 per cent. below the average, the hour before noon being the most fatal. From 3 o'clock until 7 in the evening the deaths rise to 5 per cent. above the average, and then fall from that hour to 11 p.m. From 9 to 11 o'clock at night there is a minimum of 6 per cent. below the mean average. The least mortality is between 10 a.m. and 3 o'clock in the afternoon, and the greatest during early morning hours from 3 to 6 o'clock."—*Washington Star.*

CORTICAL CELL IN MENINGITIS.

In the *Maryland Medical Journal*, July, Hirshberg reports a case of meningitis with the findings post-mortem from the Pathological Laboratory, College of Physicians and Surgeons, Baltimore. The case was typical, adult, and proved by culture to be due to streptococcus pyogenes. The cortical condition is described as follows:

Sections taken from the cortex in the Rolandic area where the green, purulent exudate was very thick, stained by Nissl's modified method, show very interesting changes. All of the Nissl (or tigroid) bodies have entirely disappeared from the cell bodies. In no section was

I able to distinguish a cell which retained the Nissl bodies. Many of the cells have lost their nuclei and taken the stain very poorly. The cells are shrunken distorted, and irregular where the nucleus remains. It is swollen, vesicular, and its limiting membrane is at times in contact with the body wall of the cell. The nucleus as well as the nucleolus is displaced to the side of many cells. The change observed in these cells are not precisely like those which Barker found in his case of epidemic cerebro-spinal meningitis. The nuclei are not so much swollen as in his case, and the nuclei are more constantly swollen than in the case here reported. The disorganization of the stainable substance of Nissl seems to be more complete in this case than in Barker's case. This may be either a question of degree of intoxication or it may show a distinct action of the streptococcus toxin. In our case the question of the direct or indirect action of the toxins in the nerve-cell bodies must have begun so early that we find complete chromatolysis. The probabilities are, as has been suggested before, that although there may have been some effects from reaction at a distance, direct or immediate action of the toxins of the streptococcus is the most probable.

WHY MINOR GYNECOLOGICAL OPERATIONS FAIL TO GIVE RELIEF.

In the *Buffalo Medical Journal* for July, Goldberg formulates the following propositions:

1. That all so-called minor gynecological operations, to be of any permanent benefit, must be performed within at least one year from the time of the infliction of the original lesion.

2. That after the passage of about a year, either Alexander's operation, trachelorrhaphy or curettage, or all combined, will be insufficient to restore patient to perfect health.

3. The reason for such failure in the great majority of such cases, after one year, is because the adnexa are sure to be involved.

4. The best course will be to do some operative procedure intra-äbdominally, and not by the internal inguinal ring puncture of Goldspohn, but by free incision, so that the exact condition can be ascertained and properly treated, and this I hold to be proper rather than to depend upon the uncertainty of physical palpation.

DISEASES OF THE EYE, EAR, NOSE AND THROAT.

Conducted by PERRY G. GOLDSMITH, M.D., Belleville, Fellow of the British Laryngological, Rhinological and Otological Society.

TUBERCULOUS LARYNGITIS.

Sharp (N. Y. *Med. Jour.*, Feb., 1903), makes the following remarks in differentiating tuberculosis from syphlitic ulceration of the larynx. The diagnosis may be very difficult, as there may be a mixed infection, or a patient may have tuberculosis of the lungs and a syphlitic ulceration of the larynx at the same time. If, on examination of the larynx, the arytenoids and true cords are found to be thickened, with edges ragged, surrounding tissues œdematous of pearly appearance, and looking as though serum would flow on puncture with a knife, with infiltration of the aryepiglottic fold, one can safely make a diagnosis of tuberculous laryngitis.

Syphilis of the larynx will present a different aspect. Deep ulcers exist, having a punched-out appearance. They are usually unilateral, and there are mucopurulent secretion and slight dyspnœa, if paralysis or much thickening exists. The whole larynx is intensely red and infiltrated. The patient will have no pain, only an annoyance in swallowing. These appearances, taken in conjunction with the patient's other symptoms, are generally sufficient for diagnostic purposes.

THE RADICAL CURE OF DACRYOCYSTITIS BY EXTIRPATION OF THE LACHRYMAL SAC—THE REMOTE RESULTS.

Rollet (*Revue. gen. d'opthalmol*, January), thinks that we can nearly always secure a rapid and positive cure of dacryocystitis by extirpating the lachrymal sac, and reports the results obtained in twenty-seven cases, observed from six months to six and a half years after operation. A cure took place in twenty-four cases, and in no instance did ectropion, cheloid, or adherent cicatrix follow. Epiphora was cured in eighteen cases, was insignificant in two cases, intermittent in one, appeared only when exposed to cold or wind in three, and in three it persisted. (Abstracted in *Jour. Eye, Ear and Throat Diseases.*)

THE OCULAR COMPLICATIONS OF SCARLATINA.

Strezminski (*Receuil d' opthal*, March; and abstracted in *Jour. Eye, Ear, and Throat Diseases*) observed seven cases during the epi-

demic of scarlatina at Wilna, in 1902, in which ocular complications, apparently due to the disease, were noted. All of these complications appeared late in the course of the disease. Cases 1 and 2 were corneal ulcers; cases 3, 4 and 5, phlyctenular conjunctivitis; case 6 showed paralysis of accommodation; and case 7, diphtheritic conjunctivitis. Cases 6 and 7 were complicated with diphtheria. Incidentally, the author advises the following treatment for corneal ulcers: Cauterize with 50 per cent. lactic acid sol., instill atropin, dust in iodoform and apply a compression bandage and hot compresses over this.

DIAGNOSIS OF TUBERCULOSIS OF THE TEMPORAL BONE.

Jobson Horn (*Jour. Laryngology*, March, 1803,) gives the following clinical facts as diagnostic of tuberculous disease of the ear:

(1) Absence of pain out of all proportion to the destructive character of the diseased process. (2) Insidious onset. (3) Marked loss of hearing power. (4) Extensive destruction of bone, rapid extension to the labyrinth, absence of headache and dizziness. (5) Progressive and destructive character, leading perhaps to facial paralysis or even severe haemorrhage. (6) Absence of intra-cranial complications. (7) Occasionally considerable involvement of adjacent lymphatic glands.

NASAL SUPPURATION.

Adolph Bronner *Quarterly Medical Journal* draws attention to the following points:

(1) Nasal suppuration is extremely common and is often followed by dangerous complications. (2) It is generally due to localized disease of bone or affection of one or more of the nasal accessory cavities. (3) In children the discharge should always be examined for diptheria bacilli. (4) Syphilitic rhinitis is often fatal if not treated locally. (5) In most cases of nasal polypü there is local disease of bone or of one or more of the accessory cavities, especially the ethmoidal cells, in which case the middle turbinal bone and ethmoidal cells should be energetically scraped.

ADENOID VEGETATIONS, WITH SPECIAL REFERENCE TO ADULT CONDITIONS.

Logan, of Kansas City, at the last meeting of the American Laryngological Association, called attention to the importance, in all acute infectious diseases, of a careful examination of the naso-pharynx, and

the thorough antiseptic cleaning thereof. He thinks the failure of treatment in many cases of catarrhal disease of the upper air passages and middle ear is due to the non-recognition of the presence of adenoids. He claims that when the adenoid tissue is once pathologically enlarged, it does not tend to atrophy, especially if during their existence any acute infectious disease has occurred. He summarizes by drawing more particularly, attention to the importance of:

(1) Early recognition and removal in children. (2) Care of the naso-pharynx in acute infectious diseases. (3) The fact that enlarged faucial tonsils usually indicate the presence of adenoids, though the reverse is not true. (4) The presence of adenoids is not rare in adults and when present has developed since childhood, and operative measures are indicated in every (?) case to relieve present conditions and prevent future complications.

(The reviewer does not think operative measures should *invariably* be taken when a pad of adenoids are found, particularly in healthy adults, nor can he agree that there is no tendency for atrophy to take place.)

SYPHILITIC OTITIS.

The question of the influence of syphilis as a cause of inflammation of the ear is discussed by Parmentier, (abstract in *Boston Medical Journal*) who records the case of a woman who had an otorrhœa of six months duration and on examination was found to have a large polypus springing from a perforation of the superior and posterior portion of the tympanic membrane. In addition to this there were clinical manifestations of secondary syphilis. The patient refused to have the polypus removed and was placed on anti-syphilitic treatment. At the end of two months, during which the treatment was continued, the discharge had entirely stopped, the polypus had disappeared, and in its place was found a beautiful cicatrix of the drum membrane. Parmentier regards the aural trouble as distinctly one of specific origin.

FACIAL PARALYSIS.—SURGICAL TREATMENT.

Ballance, Stewart and Cushing have recently succeeded in re-establishing the function of the facial nerve after it has been completely and permanently severed. In Cushing's case the nerve had been completely severed by a bullet wound in the mastoid region. After the mastoid wound had completely healed he severed the spinal accessory nerve and united it with the facial. Six months later the patient had very fair control of the facial muscles, with the characteristic droop of the shoulder seen in cases of an injury to the spinal accessory nerve. In Ballance and Stewart's cases, which were on patients whose paralysis followed mastoid caries, electricity was of value in the subsequent treatment.

MARITIME TOPICS AND NEWS.

Conducted by W. D. Forrest, M.D., C.M., B.Sc., L.R.C.P., Lond., M. R. C. S. Eng., Halifax.

PERSONAL.

Dr. E. V. Hogan, of Halifax, has been appointed Surgeon to the Victoria General Hospital. This appointment is to fill the vacancy made by the death of Dr. Edward Farrell some three years ago. Drs. Mader and Foster have been appointed Assistants.

Dr. G. F. Thompson, M.B. (St. Andrews), has opened an office on Spring Garden Road. Dr. Thompson is a Halifax boy, but has been practising for some time in the old country.

Dr. A. F. Dixon, Cardiff, Wales, has been appointed professor in Anatomy at Trinity College, Dublin. Dr. Dixon is a contributor to Cunningham's Manual of Practical Anatomy. He is a brother of Prof. Stephen Dixon, of Dalhousie University, Halifax.

Dr. John Stirling, of Montreal, has been visiting friends in the Province during the past week.

N. B. MEDICAL ASSOCIATION.

The New Brunswick Medical Association met in St. John on July 22nd. After electing officers for the ensuing year and attending to matters of business, the Society adjourned in order to permit its members to attend the meetings of the Maritime Association.

LUNENBURG AND QUEEN'S COUNTY ASSOCIATION.

The annual meeting of this Society met at Chester, N.S., on Wednesday, August 5th. A number of the medical men of Halifax drove over to Chester the night before, and were present at the meeting. The members were treated to a sail on Chester Basin in the afternoon. Chester is one of the prettiest spots in Nova Scotia and a favorite watering place for American tourists.

In the evening Dr. H. K. MacDonald, of Lunenburg—the President of the Association—gave his annual address. We have been informed by those present that this was one of the best written papers that has been read before any association in this Province for some time. Among other things he advocated the early establishment of cottage hospitals

throughout the Province, and the necessity of municipal and town councils taking some action to prevent the spread of tuberculosis.

Dr. Faulkner, of Mahone Bay, followed with a paper on "The History of Medicine during the Past Century." Dr. Ford, of New Germany, read a paper on "Albuminuria during Pregnancy."

MARITIME MEDICAL ASSOCIATION.

The thirteenth annual meeting of the Maritime Medical Association met in Orange Hall, St. John, N.B., on July 22nd and 23rd.

The meeting was called to order at ten a. m. by Dr. Murray MacLaren, the president. After enrolling names, reading the minutes of last meeting, and receiving delegates from sister societies, the president read his address, entitled "The Maritime Medical Association: Its Past and Present." Following this address several papers were read—"Methyl Alcohol Poisoning," by Dr. Armstrong, of Bridgetown, N. S.; "Pure Atmospheric Air, a Necessity for the well-being of Man," by Dr Bayard, of St. John. Dr. G. M. Campbell, of Halifax, reported a case of "Multiple Aneurism of the Aorta," and Dr. Skinner, of St. John, cases of (*a*) Renal Fistula, (*b*) Urethral Calculus.

The afternoon session opened with a discussion on smallpox, particular attention being given to its diagnosis.

Dr. John Stewart, of Halifax, read a paper on "Tuberculous Cystitis," and Dr. Crockett, of Fredericton, gave a report on an interesting case of Extra Uterine Gestation. The "Clinical Significance of Vertigo," was the title of a paper read by Dr. O. J. McCully, of St. John, N. B.

The evening session opened at 7.30 p. m. with a paper on "Puerperal Eclampsia," by Dr. Ross, of Alberton, P. E. I.

Dr. Norman E. MacKay, of Halifax, reported a case of *nephrotomy* for pyo-nephrosis of left kidney along with *nephro-lithotomy* for renal calculus of the right kidney in the same patient.

The history of the case was as follows:—Mrs. G. D., age 34, married admitted to Victoria General Hospital on February 18th with a large tumor in the left hypochondriac and left lumbar regions. Born in England, but lived in Nova Scotia for past 22 years Married fourteen years ago. Has five children living and one dead. Until the birth of her last child, patient enjoyed good health. She had been threatened with abortion the first four months in each of her last three pregnancies, and had had difficulty in her last three confinements. Four months before her last child was born she suffered from irritability of the bladder,

and noticed blood in her urine each time she passed water, but had no pain on voiding it.

The urine was very foul and contained a whitish deposit and ropy mucus. Her doctor ordered her to bed and put her on appropriate treatment, but her condition remained unchanged until after the birth of her child, when the urine became normal in color, but the sediment remained present.

Since the birth of her child, Nov. 5th, 1902, she has had pelvic pain, chiefly in the left iliac region, and a feeling of weight and dragging sensation in the lower part of her stomach. Exercise aggravated these symptoms. About three weeks before being admitted to hospital she experienced a chilly feeling, with flashes of heat and axorexia. She vomited at times. She also suffered from backache, which was worse on walking about, and had occasional attacks of indigestion and flatulence after food.

When admitted, patient looked healthy. Her appetite was poor. She had no pain in micturition, but she had at times a constant desire to pass water, and had to get up often at night. Bowels fairly regular. The circulatory and respiratory systems were normal.

Examination. Patient had a large tumor in the left hypchondriac and left lumbar regions. It extended from the lower ribs down to a little below the umbilicus. It was as large as a baby's head, and extended a little to the right of the mesial line. The tumor caused a distinct prominence in these regions. Percussion elicited a dull note, but there was no evidence of fluctuation present.

The mass was tender and painful on pressure and immoveable. The muscles over it were quite rigid. The dull note over the mass remained unchanged with the changed position of the patient. She was unable to lie comfortably on the healthy side.

She was kept under observation for ten days during which time the urine was analysed on various occasions. The average quantity passed in the 24 hours was 40 oz. It contained an enormous quantity of pus—fully one-half was pus. Blood and epithelium was also present. The odour was very foul—alkaline in reaction.

On February 28th the patient was anæsthelized with chloroform—the usual incision for lumbar nephrotomy was made and 1½ pints of foul smelling pus evacuated. The secreting substance was apparently all gone. No trace of the origin of the ureter was found and it was not considered advisable to make a long search for it. The contents of the cavity having been evacuated and the cavity irrigated with warm boracic solution, the anterior and posterior parts of the incision were brought

together and a rubber drainage tube inserted. She stood the operation well.

The further progress of the case was uneventful till the 17th of March. Her temperature during this period ranged from normal to 99.5° F., pulse between 80 and 100 and good.

The quantity of urine voided on following dates was Feb. 28th 10 oz., March 1st 33 oz., March 2nd 49 oz.

The pus lessened gradually but never disappeared. The discharge from the wound became less and less until June 26th when it had almost entirely disappeared. On March 17th patient complained of pain and tenderness in right lumbar region. On examination a tumor was felt but on account of the tenderness and rigidity it could not be mapped out. Quantity of pus in urine about $\frac{1}{2}$ in bulk.

On March 28th, just four weeks after first operation, Dr. MacKay performed nephro-lithotomy on right side. Under chloroform the tumor was found to occupy the right lumbar and iliac regions; its surface was smooth and indurated and the mass was three times the size of a normal kidney. The kidney was cut down upon in the usual way for a nephrotomy. The surface of the kidney was smooth and glassy. Its appearance was healthy but larger than the normal kidney and somewhat congested. There was no evidence of adhesions in the circum-renal tissues. On introducing a needle it came upon a firm grating substance. The kidney was then opened by an incision 3 inches in length. The stone removed was $4\frac{1}{2}$ inches in length, $2\frac{3}{4}$ inches in width, $2\frac{1}{2}$ inches in thickness and weighed $13\frac{1}{2}$ ounces (av.) Considerable bleeding followed the removal of the stone. Besides this stone 28 smaller ones were removed. At this time the patient became collapsed from the loss of blood but rallied. Several stitches were put in each end of the lumbar incision and the wound was dressed. The patient was much exhausted after the operation. March 30th, the packing was removed and cavity irrigated with warm boracic solution.

A large rubber drainage tube was inserted into kidney and iodoform gauze packed about it. This dressing was changed frequently.

Urine examination on April 9th revealed urine acid, sp. gr. 1009, albumen and pus present. Epithelial cells in abundance.

During the month of May and until she was discharged on the 26th of June the average amount of urine passed was 24 oz.

One June 19th she sat up. Urine still came from right side and some pus on dressing of left.

On June 26th she left the hospital looking well and healthy. Her general health was good

In discussing the case Dr. MacKay pointed out three points of interest in it. *First.* The entire absence of the most prominent signs of renal calculus. *Secondly.* The enormous size of the stone, and *Thirdly.* The small amount of healthy kidney capable of performing the functions of these organs.

The secreting substance of the left kidney was to all appearances gone in this case and the amount of healthy secreting substance left of the right kidney was a mere shell. On July 20th Dr. Mackay received word that the patient was still doing well.

The stone was exhibited at the meeting.

After the evening session the members were invited to a reception at the residence of Dr. MacLaren. There was a large attendance and everyone enjoyed himself thoroughly.

The first business taken up at the morning gathering of July 23rd was the election of officers for the ensuing year. The following were elected :—

President, G. M. Campbell, Halifax ; Vice-president for N.S., W. H. MacDonald, Rosebay ; Vice-president for N.B., A. F. Emery, St. John ; Vice-president for P. E. I, A. McNeill, Summerside ; Treasurer, John Sutherland, Bedeque ; Secretary, T. D. Walker, St. John.

The next annual meeting will be held in Halifax.

E. W. Cushing, of Boston, then read a paper on " The latest methods of removal of the uterus for malignant disease," and Dr. James Ross, of Halifax, gave case reports of syphilis.

Dr. McIntosh, of St. John, showed a case of aneurism of the orbit, also one of congenital nasal obstruction.

In the afternoon Dr. Maurice H. Richardson, of Boston, read a paper on " The surgical treatment of diseases of the biliary passages."

A discussion on " Conditions which simulate appendicitis', followed, in which many members took part.

Dr. Dewitt read a paper on "The sanatorium treatment of tuberculosis."

The members then enjoyed a sail on the St. John river. Refreshments were served and the St. John men fully maintained the reputation they have long held as excellent hosts. The gentlemen composing the entertainment committee were Messrs. Christie, Crawford, Skinner Morris, Roberts, Lewin and Corbett.

UNIVERSITIES AND COLLEGES.

THE HALIFAX MEDICAL COLLEGE.

The 35th annual announcement of the Halifax Medical College shows substantial progress. There are six full page photographs in it of the pathological laboratory, the Victoria General Hospital, operating rooms, wards, etc. There were 78 students in attendance last year. Clinical instruction is given in the Victoria General Hospital, the city alms house, the Protestant and Roman Catholic infants' homes. The pathological laboratory has been enlarged and is in an up-to-date condition. The interest of the Cogswell bequest goes to the library, which enables the College to procure all the recent works of reference. There is also an excellent library at the Victoria General Hospital. The five house surgeoncies are filled each spring as the result of an examination, and from graduates of the College. The session commences on September first.

FACULTY OF MEDICINE, McGILL UNIVERSITY.

The annual announcement for this year is as handsome as ever in its beautiful white enamel cover. The coming session is the 72nd in the history of the medical Faculty. Last session there were 435 students in attendance, and, of these, no less than 138 came from Ontario. The ten different endowment funds now make a grand total of $383,406. The total length of the medical buildings is 280 feet, and the minimum width 145 feet. Its cubic capacity is 1,750,000 feet. The library contains at present 24,000 volumes, and has seating room for 200 students. The chemical laboratory is 80 feet by 45 feet and 20 feet high. In the new buildings there are three lecture rooms with a seating capacity of 250 each, and a fourth with seating capacity for 450. There are five museums, namely, for Pathology, Anatomy, Obstetrics and Gynaecology, Pharmacy, and Hygiene. The matriculation fee is $5 ; when taken as a local examination, $10. The fees for the whole medical course are $500, payable in four annual instalments of $125. The hospital fee is $10 each of the last three sessions, and $12 for the maternity hospital.

The following medals and prizes are given : The Holmes gold medal is awarded the graduate obtaining the highest aggregate marks ; the Sutherland gold medal is awarded for the best standing in chemistry ;

there is a prize in books awarded in the 1st, 2nd, 3rd and 4th years; and the Clemesha prize for the best examination in clinical therapeutics.

The Montreal General Hospital has 250 beds, and the Royal Victoria 300 beds. A number of graduates are appointed as internes to these hospitals. Graduates of McGill University are entitled to register in the Province of Quebec. Arrangements exist by which students may obtain the degrees of B.A., and M.D., C.M., and also B.Sc. and M.D. after only six years of study. The Medical Faculty of McGill University has a large teaching staff of 24 professors, 21 lecturers, 3 fellows, and 36 demonstrators. McGill University has graduated about 2,200 in medicine.

THE MANITOBA MEDICAL COLLEGE.

This college is located in Winnipeg, and is now in its 21st year. There are in attendance on lectures 94 students. The Winnipeg General Hospital appoints five graduates, and St. Boniface Hospital one, as house surgeons. The fees for the General Hospital are $10, and for the Maternity Hospital, $6. The registration fee is $5, and the college fees are $400, payable $100 a year. Arts graduates who take their course in three years are required to pay $130 a year. The fee for the M.D. degree is $10, and for the C.M. degree $15. There are two scholarships of $80 and $50 awarded in the 1st, 2nd and 3rd years, and a silver and bronze medal for 1st and 2nd places in the 4th year. The Winnipeg General Hospital has 215 beds, and St. Boniface Hospital 200 beds. These hospitals furnish excellent clinical facilities. The course of study for the degree of M.D. in the University of Manitoba is one of four years. Graduates of the university are entitled to register as qualified to practise. The registration fee for the College of Physicians and Surgeons of Manitoba is $75. The list of graduates now numbers 234.

FACULTY OF MEDICINE, WESTERN UNIVERSITY, LONDON.

The Medical Department of the Western University in London will open its 22nd Session on 8th September, 1903. The students in attendance on lectures last session numbered 84. There is a teaching staff of professors and lecturers of 31.

Clinical instructions are given at the Victoria General Hospital of 170 beds, at St. Joseph's Hospital, and also at the London Asylum for the Insane. There are some other charities which the students may attend. The academic course is one of four years, at the end of which

the degree of M. D. is conferred upon successful candidates. A gold and silver medal and several scholarships are open for competition. The fees are : registration, $5 ; matriculation, $5 ; tuition for each of the four years, $90 ; annual examination, $5 ; M. D., $25 ; perpetual hospital ticket, $20. There is a special Natural Science Course that may be taken along with Medical Course Candidates taking the double course may obtain the degree of B.A., in addition to that of M.D. in six years. The list of medical graduates of the Western University now totals 218. The laboratories in connection with the college are :—Chemical, Histological and Pathological, Botanical and Biological, and Bacteriological. The announcement contains an excellent illustration of the Victoria Hospital, St. Joseph's Hospital, and the Medical College.

MEDICAL FACULTY OF QUEEN'S UNIVERSITY, KINGSTON.

The 50th Session of Queen's Medical Faculty will commence on 30th September. The Faculty of Medicine consists of 24 professors, lecturers, or demonstrators. The students receive their clinical teaching at the Kingston General Hospital, which has 200 beds, the Hotel Dieu Hospital, and the Asylum for the Insane. The Academic Course is one of four years, made up of three sessions of six months and one of eight months. But eight-month sessions are given for those who wish to take the Ontario Medical Council examinations. At the end of the Course the degrees of M D., C.M. are conferred upon the successful candidates. There is a combination Course of Arts and Science with the Medical Course, so that students may obtain their B. A., M. D., or B. Sc., M. D. degrees in six years. For those who wish to take it there is a fifth session.

The fees are : M.D., $25 ; C. M., $5 ; Sessional fee, $100 ; fifth year, $50 ; supplemental examination, $10 ; hospital ticket, perpetual, $20 ; first year B.Sc., $55 ; second year, $55 ; third year, $60 ; fourth year, $65 ; matriculation, $5 ; for use of microscope, $5. The following prizes are offered : The Dr. Hagunga Prize of a standard work on surgery for the best dissection of the upper extremity ; at end of 2nd session $25 for highest marks in Anatomy, Physiology, Histology and Chemistry ; at end of 2nd year the Dr. Hagunga Prize of a work on Medicine for best standing in Materia Medica, Therapeutics and Pharmacy ; at end of 3rd session the Dean Fowler Scholarship of $50 for highest standing at all subjects ; the Dr. McCabe Prize of a work on Pathology for best examination on Pathology ; at the end of the 4th session the Chancellor's Scholarship of $70 open to students taking the Council and

who take the fifth session, and awarded for highest marks for the four years; a University medal for Medicine, Pathology, Bacteriology, Sanitary Science, and Jurisprudence; A University medal for Surgery, Obstetrics, Gynaecology, and Surgical Anatomy; A prize of $25 from Dr. C. K. Clarke for best standing in Mental Diseases at end of 4th year, and a prize of a standard work from Dr. D. E. Mundell for best standing in Medical and Surgical Anatomy.

A number of appointments are open to the students as dressers in Eye and Ear Department; Clinical Clerks in Medicine, Surgery and Gynaecology; Pathological Clerks; Prosectors to the Chair of Anatomy; Prosectors in Medical and Surgical Anatomy; and Demonstrators in Materia Medica and Pharmacy, and Physiology and Histology. Fifth year students holding these will be exempt from the fee of $50. In this year's announcement there are well executed illustrations of Queen's University, the Medical Building, Kingston General Hospital, Hotel Dieu Hospital, the Fenwick Operating Room; the Physiological Museum, the Lecture Room, the Bacteriological Laboratory, the Dissecting Room, and the Physiological Laboratory. There are about 1,000 graduates in medicine of Queen's Medical College. Last session there were 208 students in attendance.

MEDICAL FACULTY UNIVERSITY OF TORONTO.

The Calendar for 1903-4 is just out. It is noteworthy as being the first of the united faculties of Toronto and Trinity Universities. The Calendar contains a number of illustrations of the various buildings, museums and lecture rooms. These illustrations are:—University College, the New Medical Building, the Biological Building, the Chemical Building, the Library Building, the Biological Museum, the Dissecting Room, and several Block Plans.

The united staff now numbers over eighty persons. Each department of the work is looked after by a number of teachers. The clinical instructions are given at the Toronto General Hospital of 425 beds; the Hospital for Sick Children, 160 beds; St. Michael's Hospital, 160 beds; and the Asylum for the Insane.

The fees are:—Registration, $5; Tuition, each session for 4 years, $100; Laboratory 1st year, $5; 2nd year, $5; 5th year, $50; Matriculation, $5; Each annual examination, $14; Admission *ad eundem statum*, $10; Degree of M. B., $20; Degree of M.D., $20; Admission *ad eundem gradum*, $20; Perpetual Hospital Ticket, $34; Annual Ticket, $14; Maternity, $8; And Extra-Mural Class in Psychology, $5.

A number of Medals, Prizes and Scholarships are open for competition. At first examination, $50 and $30; at second examination, $50 and $30; a gold and three silver medals are awarded by the Faculty for competition among honour M. B. graduates; the Dr. Daniel Clark Prizes of $30 and $20 in the Department of Medical Psychology; the George Brown Memorial Scholarship, the gift of Dr. A. H. F. Barbour of Edinburgh, namely, the interest on £1,000 sterling, held for one year, by the student ranking highest in Biology, Anatomy, Physiology, Embryology, and Pathology, under the condition of spending a post graduate year in one of the University Laboratories in original research; the R. A. Reeve Scholarship of $250 annually for four years to foster original post-graduate research, and is awarded for the highest standing at the final examination in Medicine, Surgery, Obstetrics and Pathology; and the Starr Medals, one gold and two silver, awarded annually to the candidates for the degree of M. D. for the best theses, showing original post-graduate study in Anatomy, Physiology, and Pathology.

The academic course consists of matriculation examination and attendance upon lectures for four sessions of eight months each, and passing the four annual examinations. At the end of the fourth session, the degree of M.B. is conferred upon the successful candidates. Graduates of the University on the Honour Department of Biology and Physical Science may enter at the beginning of the third session; and graduates in Arts may enter at the second examination. The degree of M.D. is conferred on graduates of at least one year's standing on the presentation of an approved thesis embodying the results of original research; or, having passed an examination in the following subjects: Surgery and clinical surgery, and operations on the cadaver; medicine and clinical medicine; clinical Gynæcology; Operative Obstetrics; Ophtholmology, Otology, Laryngology, and Rhinology; Pathology; Applied Anatomy; History of Medicine; Electro Therapeutics; Life Assurance; and Vaccination.

The Library is in a separate fire proof building. There are at present 76,000 volumes. There is seating room for 200 persons. The library is supplied with the standard and current literature on all departments.

There are a number of laboratories. The Physical Laboratory is for the study of heat, electricity, optics etc. The Psychological Laboratory is devoted to the study of psycho-physics, psychological optics and acoustics, and time relations in mental phenomena; the Physiological Laboratory affords ample opportunities for the practical study of Physiology, and contains a series of rooms on the "unit" system; and the

chemical laboratory. There are two museums, namely, the Biological museum, and the Ethnological museum.

The new building is a noteworthy feature of the University educational system. It was erected at a cost of $125,000 and $50,000 additional for equipment. It is now completed and ready for occupation. The medical class work of this coming session will be conducted within its walls.

There are several large lecture rooms : one in the Biological Building with seating capacity for 250 ; and two in the New Building, the larger seating 350, and the smaller, 200 ; in the chemical building there are two lectures with accommodation for 300 and 100 respectively.

There were 494 students in attendance on lectures last session. On account of the union of the two medical schools, it is more than likely that the above number will be much larger during the coming session.

THE MEDICAL FACULTY, UNIVERSITY OF BISHOP'S COLLEGE.

This Medical Faculty is now in its 33rd year. The Medical College is located in Montreal, and the teaching staff is the Medical Faculty of the University of Bishop's College, Lennoxville. There is a staff of forty professors, lecturers, instructors and demonstrators.

The clinical experience is obtained in the Royal Victoria, the Montreal General, the Western, the Women's, and the Hotel Dieu Hospitals. This gives the students access to hospital work of about 800 beds.

The course consists of a matriculation and four sessions. The degrees of M. D., C. M., are conferred upon successful candidates at the end of the fourth session.

The histological, physiological, bacteriological, and pharmacological laboratories are equipped with all modern and requisite appliances.

The fees are :—Full fees for each session, $100 ; for M.D., C.M., $30 Montreal General Hospital, 12 months, $5, perpetual, $15, clinical surgery, $12, clinical medicine, $12 ; Western Hospital, 12 months, $5 perpetual, $12 ; Montreal Dispensary, 6 months, $3, full course, $8 ; and Women's Hospital, one year, $10.

Medals and Prizes. The Woods gold medal is awarded for highest standing in primary and final subjects. The Nelson gold medal is awarded for best examination in surgery. The David silver medal is given on best standing in primary subjects. The Chancellor's prize is

given to highest standing in final subjects, next to Wood medalist. Prizes of books for best examination in physiology, best dissection in the first and second years. A scholarship of one-half the fees in all subjects to the candidate taking the highest stand at the Provincial examination. A scholarship of half the fees in all theoretical subjects to the graduate in arts taking highest stand in arts.

The degree qualifies for practice in the Province of Quebec.

There were 65 students in attendance last session.

The university has granted degrees in medicine to some 250 persons since it was established.

LAVAL UNIVERSITY MEDICAL FACULTY.

This medical college is now in its sixtieth year. There is in connection with the college about 50 professors, associates, fellows and pathologists.

The clinical instructions are given at the Hotel Dieu Hospital, 250 beds ; at Notre-Dame Hospital, 150 beds ; at the Montreal Maternity ; and at a number of dispensaries. Mental diseases are taught the asylum St. John de Dieu.

The fees : registration, $2 ; lectures each session, $80 ; maternity, $8 ; Hotel Dieu and Notre-Dame Hospitals, 12 months, $8 ; dissection, $4. These fees are paid annually for four years.

The academic course consists of a matriculation examination and four sessions of nine months each Those who pass the primary examination are bachelors of medicine ; and after the final examination, are called doctors.

There are about 225 students in attendance on lectures. The Laval Degree qualifies for the Province of Quebec.

No medals or prizes are awarded ; but students are ranked as having passed, or passed with distinction, or with great distinction.

The various laboratories are in a very efficient condition; and afford the best opportunities for practical study.

THE ONTARIO MEDICAL COLLEGE FOR WOMEN, TORONTO.

This College is now in its 20th year. There were 31 undergraduates in attendance last session. Clinical teaching is given at the Toronto General Hospital, and at a Dispensary for Women at the College. The fees are : For the session. $100 ; the Hospital, $30 ; the maternity, $8. The graduates now number about 100. There is a teaching staff of 34.

DR. C. F. NEU HONORED BY COLLEAGUES OF LONDON MEDICAL COLLEGE.

A pleasant little function took place on the evening of August 13th, at the Medical College, London, being the presentation of a gold watch to Dr. Charles F. Neu, who is leaving the city for Indianapolis, by the members of the Faculty of the medical department of the Western University. Dr Neu, who has been professor of pathology and bacteriology in the medical department at the University, is leaving to take a position in the Government State Asylum at Indianapolis, one of the best equipped institutions in the country.

Dean Moorehouse was unable to be present, and in his absence the chair was occupied by Dr. Wishart. The presentation was made by Dr. English. The gift was accompanied by an address, which was read by Dr. Hodge.

The address to Dr. Neu read as follows:—"Dear Sir—On the occasion of your departure to associate yourself with one of the state institutions of the neighboring republic, the Faculty of the Medical Department of the Western University has requested your presence here to-night to express some sense of appreciation of your long and efficient services in connection with the Western University Medical College and to present to you some token of recognition, of your contribution to the progress and reputation of this institution. We recall your invariable adhesion to high standards and lofty ideals in your work as a teacher and examiner and however severely your decisions may have sometimes borne upon ill-prepared students, neither students nor Faculty ever questioned the honesty of your purpose, or your even-handed justice.

"Yourself an alummus of this university, we shall follow your career with special interest and expectation, assured that with increased facilitites for investigation and research, your studious and diligent habits will reward you with results in the domain of pathology and bacteriology which will not only bring distinction to yourself, but will reflect honor and credit upon your Alma Mater. The Faculty now requests your acceptance of this time-piece as a parting memento, coupled with best wishes and hearty good-will for your future happiness and success, Signed on behalf of the Faculty. "W. H. Moorehouse, Dean; W. Waugh. Registrar."

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EDITORIAL.

EXPERT MEDICAL TESTIMONY.

In many quarters we hear adverse criticism of the medical expert. He is often held up for ridicule, and the differences of opinion between experts are made the most of. Lawyers and judges, all too frequently, comment unfavorably on medical evidence, and sometimes tell juries to ignore it altogether. A little reflection will soon show how unjust all this is.

Ordinary evidence, as to facts, is always, or almost always, more or less contradictory. It would then be just as consistent for judges to advise juries to disregard the evidence of fact put in, as there was distinct disagreement. Were this done, there would of course, be no case. But on the evidence of fact, juries are left to themselves. They decide what to believe, and what to reject; and mighty bad judges they often prove themselves to be.

Opinion evidence cannot be expected to agree at all points. The knowledge of several medical gentlemen, gathered from reading, conversation, and experience must differ. This will lead to differences of opinion. Then, again, some are not as close and logical reasoners as others, on the same, or similar, data. But a more serious cause of divergence of opinion is to be traced to ignorance. The witness may be perfectly honest, but not well informed on the matter submitted to him for his opinion. From such opinion as he may give, those more competent to judge will most likely be compelled to differ. But the jury are not always able to distinguish good from poor opinion, and the judge may not be able to guide them. In matters of expert evidence, a simple way out of the difficulty is to reject the whole of it. The fault is here mainly with the court, and not the evidence.

Doctors have been accused of taking sides, and appearing as advocates. Again we think the courts are responsible for this, in so far as it may exist. The witness is examined by counsel for the plaintiff. The studied effort of this examination is to obtain from the witness only such statements as may favor the plaintiff's cause. No attempt is made

by counsel to obtain from the witness the *whole* truth. Then follows the cross examination by counsel for the defendant. The object now is the reverse of the former examination. The witness is asked to make admissions which he cannot truthfully make. The counsel insists, and the wrangle goes on. The witness is forced into the attitude of appearing as an advocate, in order that he may defend his position against admissions which are contrary to his belief.

The procedures in our courts are often very unseemly. A judge will allow a witness to be examined in a most unfair manner. Lawyers not only put most irrelevant questions, but take it upon themselves to make the meanest sort of innuendos against the witness. Such questions as "What fee are you getting for this case?" "Were you approached with a view to giving evidence in this case?" "Did you receive any instructions from the lawyer on the other side?" "Is not doctor so-and-so, who gave evidence on the other side, of high standing in his profession?" "How many times have you given evidence?" "Mention another who says such-and-such a thing?" "Tell the court how many cases of a certain kind you have attended?" When interrogations are being put to kill time, or to confuse, or annoy the witness, and when such interrogations have no bearing upon the case, it is the bounden duty of the judge to put a stop to them.

It has been suggested, on a number of occasions, that one or more experts be appointed to advise the court; and that they derive their fees from some source independent of the litigants. This might be a step onwards. It is not well, however, to interfere too much with the right of parties to call witnesses, although the Federal Government has enacted that not more than five experts can be called, unless by the specific permission of the court.

It will not do for lawyers to be too free with their remarks about the divergences of expert medical testimony. Those who live in glass houses should not begin throwing stones. During the progress of a trial there is scarcely a single point of law on which the two sides agree. Law should be definite. It is not like the science of medicine at all, where the subtle forces of nature and the variations in diseases come into play. Law should be a matter of rule. But case law is quoted. One judge decides a case in a certain way, while another judge decides a similar case in another way. These cases are quoted against each other. A gentleman was threatened with a suit. He submitted the facts to five leading lawyers, and received five entirely different opinions. A case is tried and the judge hands out his decision. The case is taken to the divisional court of three judges, where it may be reversed. It then goes

to the court of appeal, and may be reversed again. After having run run the gauntlet of the courts, it stands disposed of, with four or five judges on one side and four or five on the other. It goes no further, because there are no more courts to go to; it has no further *chance* of being changed, because there are no more legal dice to throw.

A DOMINION MINISTER OF HEALTH.

The Dominion of Canada is a large country in area, is growing steadily in population, and has an extended front to guard. The provinces and territories have varied climatic and social conditions; and are exposed in many ways to the invasion of disease from abroad, and to the spread of disease at home. Under all the conditions existing throughout the Dominion, there are very cogent reasons why the Federal Government should seriously take the appointment of a Minister of Health into consideration.

If the position of a Minister of Health is created, the incumbent should have the full status of a member of the Cabinet. It should also be a fixed principle that he should be a doctor of eminence, just as the Minister of Justice must be a jurist of high standing.

There ought to be some strong central authority to deal with all matters affecting the health of the Dominion. With two ocean shores and several thousands of miles of frontier lines to guard, and all the internal conditions of the country to take into consideration, there would be ample work for a Minister of Health. By improved sanitary conditions, and better methods of living, the death rate in Great Britain has been reduced 25 per cent. during the past 30 years. This is equal to a saving to Great Britain on her present population of some 200,000 lives annually. A reduction of 1 in the death rate per thousand means an annual reduction in the mortality of 40,000.

Turning to Canada, we find a country with over 5,000,000 of a population; and, to all appearances, on the eve of rapid growth in numbers. An increase in the death rate of 1 per 1,000 of the population would mean an annual loss of 5,000 from our numbers; or, on the other hand, a decrease in the death rate of 1 per 1,000 would mean a gain of 5,000 to our population.

Taking the average earnings of adults at the age of 35 years as $300 a year, this would mean an increase in the wealth of the country equal to $1,500,000 annually. But, putting the future earning capacity of each adult at 35 years of age as equal to $200 annually, the value of

each such life is at least $3,000. This would give a total value for 5,000 lives at age of 35 of $15,000,000.

Now, what has been done in some countries in the way of a reduction of the death rate per 1,000 is a striking proof of the great economic value of sanitary science and preventive medicine to the State. There is a limit below which the death rate can not be brought; but there is no such fixed limit above which it may not rise. One of the duties of a Minister of Health would be to devise ways and means of keeping the death rate down to the lowest possible level.

A very large number of the deaths in the country is due to tuberculosis, typhoid fever, pneumonia and accidents. In the case of the above causes, the most of the deaths occur under 50, or in the active years of the first half of life. Very much could be done to lessen the death rate from the above causes: for even pneumonia is now being regarded as one of the diseases that should rightly be regarded as preventable to a considerable extent.

It is true, the various provinces are doing useful work; but this would be greatly increased by a central and active Department of Health, under the guidance of a Minister of Health, who was also a doctor of experience and knowledge on sanitary matters. Such a minister exists in some countries.—*Salus populi suprema lex est.*

THE POWER OF OBSERVATION IN MEDICINE.

Dr. Thomas T. Whipham, in a lecture which he delivered some time ago, at a medical college in Britain, made a number of very appropriate remarks, which we take pleasure in reproducing. He referred to the saying of Sir William Gull, as a sort of text for these remarks, "that in medicine we make more mistakes by not looking than by not knowing." The lecturer said this power was not given to all in equal degree, whereas some neither had it, nor could they learn it, and such were not suited for the profession of medicine. He quoted Napoleon to the effect that "the physician, like the general officer, should be a man possessing great power of discernment and observation which will enable him to discover the strength and position of the enemy." It requires teaching and confidence, said the lecturer, to call this power into action. The late Sir George Murray Humphry of Cambridge was wont to say to his pupils, "Eyes first, then hands, tongues last and least." In this Dr. Humphry emphasises the importance of a rapid appreciation of surroundings, rather than too much handling and questioning. The lecturer went on to say that

many look last when they ought to have looked first—at the aspect of the patient. If a student cannot be taught to see, little can be done for him. Like "Ephraim joined to his idols, he must be left alone." He referred to an old nurse in the hospital who was very observant. The students often asked her what ailed some of the patients, when she would often reply: "I don't know what's the matter with him, but I know he's going to die." Sir William Gull once saw a patient in consultation. The attending physician was arguing that it was a case of typhoid fever. Sir William said, "go back to your patient and look at his belly." He had seen that there was no distension and felt no resistance to pressure. The patient died of acute tuberculosis. The words of Sir Thomas Watson that "the patient sinks down in the bed" is a perfect eye picture of of the apathetic, feeble, almost unconscious condition of muscular and nervous prostration which is often met with in the later stages of acute and chronic diseases.

The time for the exercise of the faculty of observation is when danger is impending, and prompt recognition of the first signs of evil to come is of supreme importance to both attendant and patient. The occurrence of a few herpetic vesicles at the angle of the mouth in a patient with high, but no definite signs of any particular disease, are not much to look at, and yet they almost for a certainty eliminate typhoid fever, and rouse the suspicion that in a few hours later the case may prove to be an attack of pneumonia. Or take the case of a person lying in bed with his knees drawn up. This may be a very favorable, or unfavorable sign. It may point to a severe peritonitis, with a likely fatal ending; or it may mean that the patient is recovering from the exhaustion of some fever, and draws his knees up for the sake of the relief the change affords. No observant physician would overlook such a sign. In a moment, the educated eye can detect the sharply outlined features, the pallid face, the flush on the cheek, the bright lustre of the eye, the faintly-blue tint on the lips of tuberculosis. The parchment-like dry skin, the still dryer lips, the emaciation of the body, the wasting of the limbs, makes the presence of diabetes almost a matter of certainty.

It was by careful observation that Harvey made his discovery of the circulation; Jenner of vaccination; Hunter of his surgical achievements; Lister of the use of antiseptics. Quick to see and prompt to act might serve as a good motto for the profession. The words of Sydenham should be borne in mind. "True medicine consists in the discovery of real indications rather than in the excogitation of remedies. Those who have neglected this have put arms into the hands of the empiric and taught him to imitate the physician."

THE PROVINCIAL BOARD OF HEALTH.

The twenty-first annual report of the Provincial Board of Health for Ontario, for the year 1902, is to hand. It is a volume of nearly 200 pages, and contains much useful information on matters of sanitary science and preventable diseases.

Dr. Bryce, the secretary to the Board, in the first two chapters, gives a brief account of the growth of legislation dealing with matters of public health, and a statistical study of contagious diseases in Ontario for the year 1902. It is pointed out that the first action was taken by this province in 1833, when an "Act to establish Boards of Health," was passed. In view of a threatened invasion of the country by cholera, the Parliament of Upper and Lower Canada legislated for the foundation of a "Central Board of Health." In 1881, an Act was passed creating the "Ontario Board of Health." A short historical statement follows of the discoveries of Pasteur, Davaine, Bastian, Tyndall, Lœffler, Eberth, Klebs, Koch, Kitasato and others. In the 2nd chapter, Dr. Bryce, in his remarks on contagious diseases, points out there were in the Province 10,490 cases of smallpox, scarlet fever, diphtheria and typhoid fever, with a mortality of 952, or 9.3 per cent. There were 2,797 cases of smallpox and 12 deaths, or a percentage rate of .0042; 3,452 cases of scarlet fever and 290 deaths, or a percentage rate of 8.4; 2,696 cases of diphtheria and 408 deaths, a percentage of 15.1; and 1,542 cases of typhoid fever and 242 deaths, or 15 69 per cent. It will be noted from the above that the death-rate among the smallpox cases was extremely low, due to the fact that most of the cases had been vaccinated. The death rate from scarlet fever is above the average generally experienced. In the case of typhoid fever, various years and epidemics yield death rates running all the way from 5 per cent. to 25 per cent. The death rate of 15.1 per cent, however, must be regarded as rather high. The death rate of 15 per cent. in diphtheria, is also high for our present methods of treatment. One might reasonably conclude that antitoxine has not been used as freely as its merits deserve. This we think is due to the price rather than to a lack of confidence in its curative value. Efforts should be made to furnish this potent remedy at much lower prices, and to furnish it free in the cases of the destitute poor. Upon the whole, Dr. Bryce's statistics are worthy of careful study.

Coming to Dr. C. A. Hodgetts' report of his year's inspections, we find some interesting statements But we think there is none of more importance than the following regarding the protective value of vaccination. He says:—"I have yet to meet with a case of varioloid in one

person well vaccinated or revaccinated within seven years prior to the date of exposure; while many have been the instances where vaccination only once efficiently performed, even 25 to 30 years previously, has given complete protection, and of the modifying power of vaccination only once performed at a still more remote period of time, in one instance being over 50 years." He strongly advocates infant vaccination, and revaccination when the wage earning years are reached. This is sound advice. The German law of vaccination in the first and fourteenth years has abolished smallpox from that great empire.

Perhaps the most important portion of the volume is the report of Dr. J. A. Amyot on "Sewage Disposal." We wish to congratulate Dr. Amyot on his very able and lucid report, and express the hope that it will be read by many and carefully studied. He studied the disposal of sewage under the following headings:—(1) as the Indian does by moving his tent away from the accumulation, (2) by throwing it on the soil of the back yard, (3) by discharging it into water courses, (4) land irrigation (5) intermittent land filtration, (6) the septic tank, (7) the chemical treatment of sewage, (8) contact beds, (9) continuous filtration, and (10) the electrolytic method. He then goes on to speak of the work done at Berlin, the composition of the sewage, and the value of the septic tank system and the contact beds there in operation.

Some further reports on enteric fever, sewage disposal, and vaccination are to be found in the present report. As already stated, this year's report reflects much credit upon the Provincial Board of Health and its various officers.

THE MICROCOCCUS OF ACUTE RHEUMATISM.

Interest has been revived in this subject by a very careful article in the February number of the *Practitioner* (British), by Dr. George Ainley Walker, Gordon Lecturer, Guy's Hospital. He announces the doctrine at once that acute rheumatism is an infective process. This view is borne out by the clinical characteristics of the disease, namely, that it is sometimes endemic and sometimes shows a tendency to become epidemic, and that during its course there are some or all of the following: Fever, rapid anæmia, erythemata and purpura, polyarthritis, pericarditis, myocarditis, endocarditis, albuminuria, pleurisy, pneumonia and nephritis. This view is strengthened by the fact that it runs a definite course, and that there is frequently a tonsillitis. Then there are the frequent relapses. There are also met with, during the attacks, instances of malignant endocarditis. The frequent association of chorea

with acute rheumatism must be kept in mind. In many cases of chorea, without evidence of acute rheumatism, there is definite cardiac affection.

In 1875 Klebs detected miro-organisms in the cardiac valves which were affected with valvulitis. In 1887 Popoff obtained cultures from the blood of rheumatic subjects. Among the organisms that have been discovered at different times may be mentioned the staphylococcus, the sheptococcus and diplococcus, and the bacillus Achalme. It seems now to be pretty well settled that the micro-organism of the disease is a diplococcus similar to that described by Popoff. This appears to be borne out by the more recent researches of Apert, Triboulet, Westphal, Wasserman, Malkoff, Poynton and Paine. The cultures of this diplococcus, obtained from cases of acute rheumatism, produces in animals polyarthritis, pericarditis, myocarditis, endocarditis, pleurisy, nodule formation, and chorea-like symptoms. The micro-organism is found in nearly all these lesions. The writer obtained the organism from fifteen cases of acute rheumatism, and examined the actions of four specimens in rabbits with positive results. These investigations show that the organism in question is a tiny micrococcus, arranged in pairs and chains.

It has not yet been fully determined whether or not the micrococcus of acute rheumatism is a variety of streptococcus. There are some cogent reasons for thinking that it is, as it can be increased in virulency until it becomes a true pyogenetic organism. On the other hand the micrococcus of acute rheumatism will grow in a culture medium which has been used in the growth of streptococci, but which have been filtered out. This would show that the two organisms are not identical. Much work may yet be required before a positive opinion can be pronounced.

OVERCROWDING IN THE MEDICAL PROFESSION.

"There are few countries of the civilized world in which the supply of medical men is not more than equal to the demand. Probably, Russia is almost the only exception. In Great Britain, competition among doctors is painfully acute, and a similar statement applies with equal force to France and Austria. It is notorious that the evil is more accentuated in the United States than in any other part of the globe; and that, unless steps are taken to restrict the output, the situation from being serious will become absolutely alarming." The foregoing statement, coming from the *Medical Record*, of New York, is one that requires careful consideration. "The professions are all crowded." This is the cry we hear everywhere, and we have no doubt it is true

of all callings, as well as of the learned professions. It seems specially true, however, in Law and Medicine, and calls for particular attention by those interested in these professions. What should be done? Some have advocated raising the entrance and registration fees, and although these fees have from time to time been made a little stiffer, the desired result has not been obtained. The Chinese plan of regulating the supply of medical practitioners has for its chief objection, the fact that it lets in men with money and no brains, and keeps out those with brains and no money. We think no intelligent lover of the profession would wish to do that.

If there is too great a number crowding into the medical profession, the true remedy seems to be to raise the standard of the preliminary education required. If there is one calling among men that seems to demand culture and liberal training it is medicine.

The ideal physician should be, above all others, a thinker—quick, accurate and of sound judgment. The kind of training which would develop this power of rapid and accurate thought should be had before a man begins to study medicine itself. Literary and philosophical study gives culture and breadth, while scientific study, particularly laboratory work, fits a man for investigation—gives him power in diagnosis. All this is apart from the practical benefit of a knowledge of chemistry, physics, botany, and kindred studies.

The general trend of medical study, to-day, calls for intelligent investigation. Its possibilities are unlimited. The men who will succeed in the work must be specially prepared. Even in ordinary practice, the work must be of a higher order than in the past.

The requirements of the profession, if met, will go a long way in solving the problem of "too many doctors." Raising the standard will also raise the age limit. The amount of preliminary knowledge required by some medical schools is so ridiculously low that with the present efficient state of our schools and academies many boys of fourteen can with little difficulty pass the matriculation. It would be no great hardship if no one was allowed to begin the study of medicine before twenty. This subject is attracting much attention at present, and it seems as if the day is not distant when a degree in Arts will be the standard required for entrance upon medical study. Two of the leading universities in America, namely, Harvard and Johns Hopkins now demand it and others will no doubt follow their example.

Let us hope that Dominion registration may yet come into force, nationalizing the medical profession. If this were accomplished, there would be a much better chance for the adoption of a higher standard of entrance to the medical profession.

AN ACADEMY OF MEDICINE FOR TORONTO.

The talk of union has been in the air for some months. Now that the two medical colleges have agreed upon the desirability of uniting their forces, there seems no good reason why the medical societies of Toronto should not unite. The Toronto Medical Society, the Toronto Clinical Society, and the Pathological Society are very useful; and have, in the past, accomplished much. But it is always in order to improve upon the existing condition of things.

If the three societies could be joined into one, by a common membership fee, and form an academy of medicine much good would result from the change. It would be an important step towards the securing of a suitable building for meetings and the library. Such an academy would be more attractive and hold out more advantages than any of the present societies. This would have the effect of increasing the membership.

A suitable headquarters for meetings and the library is most desirable, and we feel quite confident that it is attainable. Such a headquarters would be of no small value to the profession of the entire Province. It would be a place of meetings, unions, re-unions. and for the collection and distribution of thought and opinion.

Now that the season for active medical work is again at hand, we hope to see this matter taken up and pressed on to a successful termination.

REDUCTIO AD ABSURDUM.

These words were never used with greater accuracy than when applied to Christian Science. In Christian Science, we have a modern equivalent of the ancient worship of mysteries. Christian Science is interesting because it is a phase of opinion; but, as a fallacy, it is on a level with thousands of other fallacies that have had their day in the past. Mind is known to us only in connection with matter; and matter is known in connection with mind. The Christian Scientist says there is no matter; that there is nothing but mind. This proposition is not thinkable.

But, while Christian Science tells us there is no such thing as disease, that it is only a delusion of mortal mind, and that germs have no existence, it also takes special pains to condemn the use of tobacco and alcohol. It is puzzling to know why these things should have an existence and do harm on an immaterial state of existence, when germs have no existence at all, and cause no disease.

The cures wrought by Christian Science are of the same nature as those wrought by the medicine men of savage tribes, by ignorant hypnotists, and by quacks. These so-called cures are the result of suggestion. It is quite true that the mind has some influence over the body in certain nervous affections; but, on the other hand, the mind has no influence, nor can it have any influence, other than a purely delusive one, over organic diseases in any organ of the body. Some diseases recover by time, and a few conditions are influenced by the mind. This is the field for Christian Science.

Stringent laws exist against homicide, the would-be suicide, or aiding in the death of others through wilful ignorance and neglect. It does seem a marvel that persons who hold that disease is only a delusion of mortal mind should be allowed to treat disease, and so permit the loss of life, the spread of infection, and serious impairment even where the patient escapes with his life. The day is not far distant when legislators, in deference to public opinion, will be compelled to enact such laws as shall put an end to Christian Science as a system of treatment. With the metaphysical or religious side of Christian Science we have nothing to do, much less do we care. It is only when it says that broken legs and cases of small pox are delusions of mortal mind that we think the law should put an end to this form of insanity.

EX NIHILO NIHIL FIT.

This is true of tuberculosis as of all other things. Tuberculosis is the greatest scourge of civilized countries. Wars, plagues, and intemperance combined do not cause as much loss, suffering and death as do the tubercle bacilli. No matter what the heredity may be, there must also be the germ. Every case of phthisis owes its origin to some other case. It matters nothing whether that other case is known or not, "'tis law as steadfast as the throne of Zeus" that a case of phthisis can no more arise *do novo* than can an oak tree.

The bacilli do not grow, nor multiply, outside some animal body. It may be laid down at once that man does not contract the disease from birds, reptiles nor fish. In some instances it may be of bovine origin; but even then it is more than likely to have been from man to the animal in the first place. Destroy the infection as it is produced in man, and tuberculosis will soon be a modern *Prometheus vinctus.* The disease is not obtained from any condition of nature.

The human victim of the disease contracts it by the bacilli entering the system through a wound, by being swallowed, or by being

inhaled. The discharges from tubercular patients, or the spray from the mouth in coughing, contain the bacilli, but nothing else in nature does except from these sources. Every case of tuberculosis is a possible cause for other cases. The so-called heredity of the disease is in most instances only examples of family infection. And yet some will say that tuberculosis is not infectious in the same sense that other diseases are infectious. Of course it is. It is simply a case of the germs passing from the bodies of the sick to the bodies of the well, and this is what happens in small pox The method of infection may vary ; but the fact of infection remains.

1. The bacilli do not multiply out of the animal body.
2. They do not live long out of the animal body.
3. Man contracts the disease from man in nearly all instances.
4. Without the bacilli there can be no tubercolosis.
5. If the infection of the first case is destroyed, there cannot be a second case from it.
6. Tuberculosis should be reported and proper precautions taken.

DR. JAMES STEWART'S ILLNESS.

There is not a medical practitioner in Canada who will not extend to Professor Stewart, of Montreal, his sympathy in the latter's severe illness, and his best wishes for a perfect recovery. We learn from Dr. C. F. Martin that there is now good hopes of a recovery, though the convalescence will be slow. Dr. Stewart has been suffering from a severe attack of septicæmia following parotitis.

PERSONALS AND NEWS ITEMS.

Dr. Cawthorpe, of Tiverton, has opened an office at Themsford.

Dr. W. R. Coles, a graduate of Trinity and McGill has located in Regina.

Dr. A. Downing, of McDonald's Corners, has removed to Bruce Mines.

Dr. Woods, Inspector of Jails for the Quebec Government has settled in Hull.

Dr. Keith, of Omemee, is now occupying his new residence in the west end.

Dr. Bowman, a graduate of the University of Toronto, has located in Weyburn.

Dr. Benjamin Reeves, of Fort Francis, was recently married to Miss Langstaff, of Emo.

Dr. E. W. Spragge, of Toronto, spent three weeks in Muskoka during July and August

Dr. D. B. Kennedy, of Pembroke, has gone to Great Britain for a post-graduate study.

Dr. R. L. Dudley, of Pembroke, has purchased the practice of Dr. McLellan, North Bay.

Dr. M. C. Black, of Paisley, has been appointed Associate-Coroner for the County of Bruce.

Dr. McKay, lately of Leduc, will probably locate in one of the settlements east of Battleford.

Dr. C. Duncombe, of St. Thomas, returned on 21st August, after his post-graduate course in London.

Dr. Baker, of Keewatin, paid a visit of two or three weeks to his former home at Springfield, Ont.

Dr. A. L. DeMartigny, of Montreal, has been appointed to the Mounted Police at Battleford.

Dr. and Mrs. Bedford Richardson and family of 10 Carlton street, spent August at Bala, Muskoka.

Dr. D. J. Gibb Wishart spent two weeks during August with his family at Bellevue, Go Home Bay.

Dr. J. H. O'Neil has settled in Paisley, County of Bruce. He was formerly with Dr. Hall, of Brampton.

Dr. and Mrs. H. S. Birkett, of Montreal, who sailed for England by the Canada, spent a few weeks abroad.

Dr. Jas. Connell, recently of Spencerville, left on July 22nd, for a year or so in some of the big hospitals.

Dr. Whitely, Londesboro, has bought out a practise at Gorrie, and left for that place to enter upon his duties.

Dr. W. S. Payfair, of London, Eng., died 14th August. He was well known as the author of a work on midwifery.

Dr. J. A. C. Hogan, of Walkerville, was married July 27th to Miss Nellie Large, Daughter of the Rev. R. Large, Cleveland.

Dr. Creighton, who has been taking the practice of Dr. Casselman, has entered a partnership with Dr. Byers of Melita, Man.

Dr. F. H. Bradley, of Compton, Que., sailed last Saturday from Montreal for a visit to the United Kingdom and Ireland.

Dr. Hutchinson, of St. Thomas, and family left on 31st July on a holiday trip to Upper Michigan.

Dr. John W. Russel, for the past six months house surgeon at Victoria Hospital, London, will practice at Highgate.

Dr. R. S. Macalpine has returned from New York, where he took a post-graduate course, and has resumed his practice in Petrolia.

Dr. W. B. Thistle has recovered from the severe attack of typhoid fever which has confined him to his home for some weeks.

Dr. Peake, son of Rev. W. H. Peake, of Campbellford, has settled as a practising physician at Blackfalds, a little town in Alberta.

Dr. Casselman, of Napinka, Man., has returned from Chicago where he has been taking a course in surgery and clinical medicine.

Dr. Thomas A. Moore, who has been one of Stellarton's (N. S.) leading medical practitioners for 15 years, has gone to New York.

The Marriage of Miss Laura Dickie, of Upper Stewiacke, to Dr. MacGregor MacKay, took place at Livingston, Montana, July 13th.

Dr. Rochette, formerly of Windsor Mills and Richmond, who has been living in California for some time, returned again to Windsor.

The funeral of the late E. H. Wells, M.D., took place Monday, 20th July, from the deceased's residence on the Eramosa road, near Guelph.

Dr. J. R. Thomson, of Winnipeg, who was absent for some time in Toronto, owing to the illness of a relation, has returned to his practice.

Dr. W. G. Montgomery, of Gorrie, who was ill at the home of his father, Wm. Montgomery, was not improving when last heard from.

Dr. Patrick, M.L.A. for Yorkton, N.W.T. accompanied by Mrs. Patrick and family, will make an extended visit to London and other points in Ontario.

Dr. Buchanan, of Zurich, took a trip to the Coast, and was absent about six weeks. Dr. Wallace, of Collingwood, attended to his practice in the meantime.

Dr. Percy James, of Galt, left a short time ago for a trip through the Thousand Islands, on his way to London, Eng., where he will take boat for Australia.

Dr. Hodge, of London, has been appointed by the National Sanitarium Company as their local examiner for patients going to the sanitarium at Gravenhurst.

Dr. P. L. B. Ebbett, of Gagetown, who graduated in medicine at the close of last term at McGill, is to be associated with Dr. Nevers, of Houlton, N.B.

A pretty wedding took place at Kildonan, on the 29th ult., when Miss Christiana Helen McBeath, Fort Pelly, was united to Dr. Wm. Sinclair, of Manitou.

The death is announced of Mrs. Thornton, wife of Dr. H. R. Thornton, of Petrolea. Deceased had been ill for about two years, and her death was not entirely unexpected.

Much sympathy is felt for Dr. Joseph Stafford of McGill University, late of Toronto University, in the very sudden death of Mrs. Stafford in Montreal, on the 27th of July.

Charles Harold Dickson, M.D., of Port Hood, and Isabelle Staniland Oliver of Halifax, daughter of the late Captain Frank Oliver, of Sydney, were united in marriage July 28.

Dr. C. H. Vrooman, of Winnipeg, left by the Imperial Limited on Saturday, 8th August, for the east where he will visit the hospitals in Toronto, Montreal, New York and other cities.

Dr. J. J. Robertson, of Montreal, a recent graduate of Queen's College, was married in the latter part of July, in Kingston to Miss Henrietta McDowall, second daughter of Mr. R. J. McDowall.

Dr. Herbert C. Ina Featherston, of Bedford road, sailed per ss. Corinthian on 22nd July for Glasgow. He intends taking a post-graduate course in the Royal College of Physicians and Surgeons.

Dr. J. M. Piper, of South London, was confined to his room for some time. He was suffering from blood poisoning, caused by a slight scratch received on one finger. At one time his condition was critical.

Dr. Norman D. Buchanan and Dr. Frank C. Neal, recent graduates of the University of Toronto, have gone to Europe, where they intend remaining for two years, studying in London, Berlin and Vienna.

The marriage took place at Toronto on Wednesday, the 22nd July, of Miss Marion S. Longworth, to Dr. D. J. McDonald of Toronto. Mrs. McDonald graduated from the Mt. Allison Ladies' College in 1899.

Dr. George Villeneuve, medical superintendent Longue Point Asylum spent his holidays at St. Irenee les Banis and Murray Bay. Dr. F. E. Devlin, assistant medical superintendent, was in charge during his absence.

Dr. Corbett, of Winnipeg, had an extended holiday during the month. He visited all the principal towns and cities in Ontario, Port Hope, his old home, and which he has not seen for 18 years, being one of the points in his itinerary.

Dr. Lorne Robertson, son of Dr. J. A. Robertson, of Stratford, and President of the Ontario Medical Council, passed the examination for the Fellowship of the Royal College of Physicians of London, recently, and has returned home.

Dr. D. G. Revell, a Canadian and a member of the staff of Anatomy, University of Chicago, was offered the position of assistant professor in the University of St. Louis. He declined the offer. He is a graduate of the University of Toronto.

Dr. Geo. T. McKeough left on July 16th, for Munich, Germany, where he will meet his daughter, Miss Mary. Subsequently the doctor will visit the hospitals of Vienna and Berlin, later sojourning for a while in Paris, London and Scotland.

Dr. and Mrs. Moore, of Brampton, left about the middle of July, for a two months' trip. They will visit different places in Michigan and Wisconsin. Dr. Moore has been in ill health for some time It is hoped this holiday will renew his strength, and that he will return fully restored.

Dr. C. F. Neu, of London, has given up his practice there, and will remove to Indianapolis, where he is to be the superintendent in the laboratory of a large asylum for the insane. Dr. Neu practised in London for upwards of ten years and was a member of the Medical School staff.

Dr. W. Edgar Robertson, son of Dr. D. Robertson, of Milton, graduate of the University of Toronto, has passed the conjoint examination in Edinburgh for the triple qualifications of L.R.C.P., Edin., L.R.C.S., Edin., and L.F.P. and S., Glasgow. The doctor intends to continue his studies in London, Paris and Vienna before returning to Canada.

The marriage took place at Newark, New Jersey, recently of Dr. William L. Ellis and Miss Mildred Frost, of Hampton. Miss Frost had been studying nursing in the hospital at Newark. Dr. and Mrs. Ellis will return to Quebec where Dr. Ellis's work as medical officer of the Department of Interior requires his attention during the summer.

OBITUARY.

DEWITT H. MARTYN, M.D.

Dr. Martyn, of Kincardine, died on Sunday, 19th July, after a long illness, at the age of 66. The late Dr. Martyn was a striking figure in Kincardine affairs for a great many years.

C. E. MORIN, M.D.

The many friends of Dr. C. E. Morin, of Thetford Mines, Que., were greatly surprised to hear of his death, which occurred on 24th July at Thetford Mines. The deceased gentleman who was only 37 years of age, was one of the most popular medical men of the district. His death is understood to have resulted from blood poisoning.

DONALD MACLEAN, M.D.

Dr. Donald MacLean, a noted surgeon in the State of Michigan, died July 24 at his home in Detroit from gastro enteritis. Dr. MacLean was born in Seymour township, Ont., in 1839, and graduated from Edinburgh University in 1862. He practised medicine in Kingston, Ont. until 1870, excepting the years 1863-64, when he was a surgeon in the United States Army. In 1870 he became professor of surgery at the University of Michigan, and held the chair until 1889. He was for a number of years chief surgeon of the Michigan Central and Grand Trunk Railroads, and in 1894 was President of the American Medical Association.

W. J. NEILSON, M.D.

Dr. W. J. Neilson, ex-M.P.P. for North Winnipeg, died on Friday, 17th July, in the Winnipeg Hospital, after an illness of considerable length, owing to a piece of gum lodging in a bronchial tube about twelve months ago, setting up inflammatory symptoms and causing him great pain. An operation was performed, but the relief it afforded him was slight, and his general health suffered. Two months ago he was removed to the hospital, where he died. Dr. Neilson was one of Winnipeg's most popular city physicians. He came to Winnipeg in the days before the boom. He was a keen politician, the first president of the Maple Leaf Club, and in 1899 was elected for North Winnipeg. He was born in Perth, Ont., March, 1854, and was thus only 49 years of age. He was educated in Ontario, and finally graduated in medicine from McGill University, taking the degree, both as a physician and surgeon.

JAMES W. McLAUGHLIN, M.D., L.R.C. & S., EDIN.

Dr. James W. McLaughlin, Registrar for West Durham, died 10th August in his 63rd year. He had been in very poor health for two years; and, a month prior to his death, went to Guelph for a change, and was thought to be benefited, but he was taken suddenly ill on the even-

ing of the 9th. The funeral took place from the family residence, Rathskamory. Deceased was the son of John and Eliza McLaughlin of Tyrone, Darlington township, and was educated at Tyrone Public School. After a brilliant medical course in the University of Toronto, he graduated in 1864. He was a gold medalist in his class, and was subsequently appointed an examiner in the university. He became a licentiate of the Medical Council of Ontario the same year. In 1872, after practising medicine at Enniskillen seven years, he went to the old country and successfully passed the examinations of the Royal College of Surgeons and the Royal College of Physicians of Edinburgh, taking the L.R.C.P. and L.R.C.S. diplomas. He was for many years a member of the Medical Council of Ontario, and was looked upon as one of the most skilled physicians and surgeons in eastern Ontario. Just 28 years ago he came from Enniskillen to Bowmanville, where he enjoyed a very extensive practice till his health broke down. Dr. McLaughlin represented West Durham in the Ontario Legislature for three Parliaments. Deceased was a capital debater, having few equals as a political platform speaker, and his voice was often heard in the legislative halls. He was twice married, his first wife being Ida Ella Gross and his second wife, who survives him, Sarah J. Wilkinson, youngest daughter of the late Captain Neil Wilkinson. He leaves also two sons, Arthur E., who practises law in Bowmanville, and Norman, residing at Dunkirk, N.Y. His eldest daughter is the wife of Mr. B. B. Cronyn, Toronto. The second daughter, Mary, lives at home. Deceased was a great temperance advocate, and took an active part in every campaign against the liquor traffic during the last quarter of a century. On retiring from the Provincial Parliament, he was appointed Registrar for the West Riding of Durham, an office which he held up to his death. He was superintendent of the Presbyterian Sunday school at Enniskillen and Bowmanville for some thirty-five years, and was for a long time an elder and member of the board of managers in St. Paul's Presbyterian church. He was also an active member of several fraternal and benevolent societies.

LUCIUS S. OILLE, M.D.

Dr. L. S. Oille died at his home in St. Catharines on August 15th after an illness of several weeks. Deceased was born in 1830, and was educated at the old Grantham Academy in St. Catharines and at Toronto University, from which he graduated B.A. in 1855 as a gold medalist, and M.A. in 1856. He then took up the study of medicine in the same institution, and in 1859 graduated M.D.

again winning the gold medal. He then settled in St. Catharines, and began practising his profession. He took a very prominent part in all matters pertaining to the city's welfare. He represented the city as a member of the council, deputy reeve and mayor. He took an active part in establishing the city water works system, and was a commissioner for many years. He started the first street railway between St. Catharines and Thorold, and was also the chief promoter of the St. Catharines and Niagara Central Railway. He was president of the Board of Trade for a number of years, and a member of the board of trustees of the High school. He was high up in the Masonic order.

JAMES McGARRY, M. D.

Dr. James McGarry, of Niagara Falls South, a coroner and one of the most prominent physicians in this district, died 13th August, aged 69 years. He was a prominent Mason, Workman and Royal Templar, and was widely known and respected. The doctor had a foot amputated a few days ago on account of gangrene setting in, and did not rally.

FIFE FOWLER, M.D., L.R.C.S., EDIN.

Dr. Fife Fowler, of Kingston, died on 3rd August, at the advanced age of 80. Dr. Fowler was born in Elgin, Morayshire, Scotland, in 1823, and received his preliminary education at the grammar school, Aberdeen. At the age of 14, he matriculated in arts at King's College, Aberdeen, where he attended lectures for two years. He was then apprenticed for four years to the late Professor Pirie of Marischal College, Aberdeen, from which institution he received his M.B. in 1843. Three years later, he took his M.D. from the same college, and his L.R.C.S. from Edinburgh.

He spent two years in Greenland, and practised for some time at Aboyne, near Balmoral. In 1854, he came to Canada and located in Kingston. About the time of his arrival in Kingston, efforts were being made to establish the Medical Faculty of Queen's University. He was asked to take the chair of Materia Medica and Therapeutics, which he did, filling the chair till the retirement of the late Dr. Yates, in 1878, when he became professor of Medicine and dean of the Medical Faculty. He was a charter member of the Royal College of Physicians and Surgeons, Kingston. Dr. Fowler survived all his early associates in the Medical College. For forty-six years he was actively identified with the staff of the College, enjoying the confidence of both colleagues and students. He was dean of the Medical Faculty for a quarter of a century.

He was a member of the Ontario Medical Council for many years, and its president in 1892.

On his retirement from active work, the faculty and graduates, from all parts of the Dominion and the United States, felt that he should not be permitted to retire without some tangible expression of their appreciation of his faithful services to the College and the profession. It was agreed to found a scholarship in medicine, to be known as "the Dean Fowler Scholarship." With much promptness the funds were raised.

Dr. Fowler was ever the friend of the student, and especially the deserving student, who, though poor in money, was rich in grey matter. To such his generous sympathies ever went out. It is safe to say that, in the hearts of all the medical graduates of Queen's, he will ever retain an affectionate place.

Advancing years having compelled him some time ago to resign the active duties of his appointments on the College and hospital, and to relinquish the cares of practice, he lived in comparative, but easy retirement, esteemed by all, and in the full consciousness that his life had not been in vain, nor his efforts unappreciated.

His widow, one son, a barrister in Toronto, and four daughter survive him.

Dr. Fowler lived true to the words of Horace :—

"Keep Nature's great original in view,
"And thence the truthful images pursue."

STUART McARTON, M.D.

Dr. McArton, a prominent citizen of Paisley, died at his residence on Monday, 3rd August, after a brief illness, at the comparatively early age of fifty-one years. Dr. McArton served in the County Council for a number of years, and was a highly esteemed member of that body. He was also physician for the Grand Trunk Railway Co. The doctor was personally a gentleman of kindly disposition and of warm genial humor. He leaves quite a large family. Mrs. McArton is Vice-President of the Ladies' County Hospital Association. Her many friends in the county will be grieved to hear of her bereavement. Dr. McArton was a native of Carleton Place, Lanark Co., to which town his remains were taken for burial. His death is a distinct loss to the best elements of the community in which he lived.

BOOK REVIEWS.

A THESAURUS OF MEDICAL WORKS AND PHRASES.

By Wilfred M. Barton, M.D., Assistant to Professor of Materia Medica and Therapeutics, and Lecturer on Pharmacy, Georgetown University, Washington, D. C. ; and Walter A. Wells, M.D., Demonstrator of Laryngology and Rhinology, Georgetown University, Washington, D.C. Handsome octavo of 534 pages. Philadelphia, New York, London : W. B. Saunders & Company, 1003. Flexible Leather $2.50 net ; with thumb index, $3.00 net. Toronto : J. A. Carveth & Co.

This work is the only Medical Thesaurus ever published. It performs for medical literature the same services which Roget's work has done for literature in general ; that is, instead of, as an ordinary dictionary does, supplying the meaning to given words, it reverses the process, and when the meaning or idea is in the mind, it endeavors to supply the fitting term or phrase to express that idea. To obviate constant reference to a lexicon to discover the meaning of terms, brief definitions have been given before each word. As a dictionary is of service to those who need assistance in interpreting the expressed thought of others, the Thesaurus is intended to assist those who have to write or to speak to give proper expression to their own thoughts. In order to enhance the practical application of the book, cross references from one caption to another have been introduced, and terms inserted under more than one caption when the nature of the term permitted. In the matter of synonyms of technical words, the authors have performed for medical science a service never before attempted. Writers and speakers desiring to avoid unpleasant repetition of words will find this feature of the work of invaluable service. Indeed, this Thesaurus of medical terms and phrases will be found of inestimable value to all persons who are called upon to state or explain any subject in the technical language of medicine.

THE MEDICAL EPITOME SERIES.

Microscopy and Bacteriology, a manual for students and practitioners. By P. E. Archinard, A. M., M. D. Demonstrator of Microscopy and Bacteriology, Tulane University of Louisiana, Medical Department. Series edited by V. C. Pedersen, A. M., M. D. Illustrated with seventy-four engravings. Lea Brothers & Co. Philadelphia and New York. Price in cloth $1. net.

The object of this little book is to give everything that is essential in microscopy and bacteriology without padding and at a very moderate price. In these respects the author and editor have succeeded very well. The various books of this series are got up in a very neat form. The mechanical make-up of these books is all that could be desired. The illustrations in the present number are excellent. This little work can be highly commended.

THE MEDICAL EPITOME SERIES.

Medical Jurisprudence, a manual for students and practitioners. By Edwin Welles Dwight, M. D., Instructor in Legal Medicine, Harvard University. Series edited by V. C. Pedersen, A. M., M. D., Lea Brothers & Co. Philadelphia. Price, cloth, net $1.

In the 250 pages of this little book, the subject of medical jurisprudence is carefully reviewed. There are some books we can read, some we cannot read, and others we cannot help reading. Dr. Dwight's little manual is one of the latter. When one begins reading it he keeps on reading it because it proves to be so interesting. The arrangement is simple and scientific, the statements clear and brief, and the matter accurate. This is just the sort of book every physician should have, as he could find at once what he requires to know. This book is a genuine multum in parvo.

THE WELCOME PHYSIOLOGICAL RESEARCH LABORATORIES.

Founded 1894. Walter Dowson, M. A., M. D., Director—Brockwell Hall, Herne Hill, London, S. E.

This is a very handsome brochure of 36 octavo pages, neatly bound and well illustrated. The booklet gives an account of the laboratories, the stables for the animals, and the various methods of research. The subjects of the standardization, and diphtheria antitoxic serum are taken up fully. Much evidence is submitted of the value of the serum in the treatment of diphtheria. It is clearly proved that when the antitoxin is used early and freely, the mortality is greatly reduced. The statement is made that, as the disease is severe on very young children, these ought to receive larger doses than the adult. Prophylactic doses of 1000 units are of decided utility. The dose for an ordinary case should be 2000, units and in severe cases at least 4000 units. The statement is made that so far researches have failed to make any substantial headway in typhoid fever, leprosy, pneumonia, and tuberculosis. In tetanus the serum is antitoxic in its action. In order that the serum treatment in tetanus may be useful, it is necessary to commence it at the earliest possible moment. The symptoms are due to the action of the toxin on the central nervous system. This toxin is produced by the growth and multiplication of the baccilli in some local lesion. The serum is an antitoxin. In the case of streptococcus poisoning, the serum has proven of much value in some cases, and appears to have failed in others. This is due to the fact that there are several distinct varieties of pathogenic streptococci. It is suggested that much of the research of the future will be along the lines of discovering bactericidal sera, and not merely antitoxins. Considerable attention is given to cancer. It is laid

down as the main feature of this form of growth that the vegetative functions of the cells dominate all their other functions. The reproductive activity overpasses that in any other direction. These tumors never reach maturity ; they are never fully developed tissues, structurally or otherwise. Degenerations are extremely common and testify to the unstable nature of the new growth. Stimulation of the cell nuclei may be capable of causing these variations in the life of the cell. It has been shown that stimulation of the ova of lowly-organized animals will couse the development of larvae without fertilization by spermatozoa ; but adults do not develop from these. Some such cell activity may be the cause of cancer growths. This vegetative activity may be excited by a parasite, or some chemical irritant acting upon the cells. Which one of these views is the true one has not yet been settled. The peculiar frequency of cancer in organs once active but now undergoing involution is noteworthy. The overproduction is in the epithelial cells which invade the surrounding connective tissue. The little book is a very interesting one.

DIETOTHERAPY AND FOOD IN HEALTH.

Vol. VI. of A System of Physiologic Therapeutics, a practical exposition of the methods, other than Drug Giving, useful in the Prevention of Disease and in the Treatment of the Sick. Edited by Solomon Solis Cohen, A.M., M.D., Professor of Medicine and Therapeutics in the Philadelphia Polyclinic ; Lecturer on Clinical Medicine at Jefferson Medical College ; Physician to the Philadelphia Hospital and to the Rush Hospital for Consumption, etc. Present volume by Nathan S. Davis, jr., A.M., M.D., Professor of the Principles and Practice of Medicine in the Northwestern University Medical School ; Physician to Mercy Hospital and Wesley Hospital, Chicago, etc. Philadelphia : P. Blakiston's, Son & Co. Toronto : Chandler and Massey. Price per volume,

Volume VI. of a System of Physiologic Therapeutics is devoted to the consideration of the "general principles of diet in health," and "diet in disease." Under the first division the following subjects are discussed, namely, food in health, the uses of water in dietetics, the elements of food, quantity and kinds of food needed in health, animal foods, vegetable foods, beverages, diet in health, infant feeding, and food as a cause of disease. In part two of the volume the following topics are considered : feeding the sick, diet in infectious diseases, diet in diseases of the stomach, diet in diseases of the blood, diet in diseases of the intestines, liver, and peritoneum, diet in diseases of the respiratory organs, diet in diseases of the circulatory organs, diet in diseases of the kidneys, diet in diseases of the nervous system, diet in diseases of the skin, diet in disorders of nutrition. It will be seen from the above that the scope of the author

is a comprehensive one. Throughout the 370 pages of the book, the author keeps up a well sustained effort to elucidate the difficulties of the dietary of health and disease; and we wish to congratulate him on the large measure of success he has attained, the advice being sound on all subjects. This is a genuine work on therapeutics—foods being the remedial measures. Until one reads this book, it would not likely occur to him how much there is in the subject of dietetics.

GENITO-URINARY DISEASES.

The Surgical Diseases of the Genito-Urinary Organs, by E. L. Keyes, A.M., M.D., LL.D., Consulting Surgeon to the Bellevue and the Skin and Cancer Hospitals; Surgeon to St. Elizabeth Hospital; formerly Professor of Genito-Urinary Surgery, Syphilology and Dermatology at the Bellevue Hospital Medical College; and E. L. Keyes, Jr., A.B., M.D., Ph.D., Lecturer in Genito-Urinary Surgery, New York Polyclinic Medical School and Hospital; Surgeon to the Out-Patient Department, St. Vincent's Hospital; Physician to the Venereal Clinic, Out-Patient Department of the House of Relief of the New York Hospital, etc. A revision of Van Buren and Keyes Text-Book, with one hundred and seventy-four illustrations in the text and ten plates, eight of which are colored. New York: D. Appleton & Co. Toronto: N. Morang & Co. Price in cloth, $5.00 net, 1903.

The late Dr. W. H. Van Buren began in 1867 to write his book on "Genito-Urinary Diseases with Syphilis." The present edition is the direct descendant of the above work of 35 years ago. In the present edition syphilis has been eliminated, as the authors regard it as a general disease, only being contracted usually through the genital organs.

In speaking of gonorrhœa, the authors state that, so long as gonococci are found in the discharge, the patient is infectious. This is the only test that is absolute. Clinically, however, the person is not free from the infection so long as pus is discharged from the genital tract.

In the treatment of gonorrhœa, sandal-wood oil is spoken of as the best internal remedy, and irrigation with permanganate of potash as the best local measure. The treatment of chronic urethritis and prostatis is discussed in a very able and satisfactory manner.

Coming to the subject of spermatorrhœa the statement is made that "improved methods of modern diagnosis, aided by a broadened common sense, justify the surgeon, I believe, in dismissing spermatorrhœa from the catalogue of diseases. There is no such disease as spermatorrhœa." To this opinion we give our most cordial assent.

The chapter on "Extra-Genital and Metastatic Gonorrhœa" is well worthy of careful study. Cystitis, pyelitis, conjunctivitis, proctitis, and rheumatism are taken up, and the treatment gone into very fully. In the gonorrhœal form the usual remedies for acute rheumatism are of no use. The treatment is tonic, hygienic and dietetic, and an alkali if the

urine is acid. "The sooner the uretheal discharge is controlled the quicker will the rheumatic symptoms cease." In gonorrhœal ophthalmia cold applications are of the utmost importance. The nitrate of silver treatment is condemned. Instead, cleanliness and drainage must be constantly assured by gently separating the lids and freely instilling with a dropper or an irrigator either chlorin water, or 4 per cent. boric acid solution, or weak permanganate-of-potash solution. These solutions are made freely to the entire conjunctivial sac about every two hours.

Another section of the book of the utmost importance is that dealing with organic stricture. This chapter, however, is so full that it is quite impossible to go into any details further than to say that indications for the varions methods of treatment are well laid down. Excellent directions are given when to cut, and to what extent.

Hypertrophy of the prostate is an important subject, and receives accordingly extended consideration. The hygienic, general, local, and operative methods of treatment are reviewed with great care. Of the perineal operations the authors recommend intra-vesical perineal prostatectomy.

It would be impossible to mention all the good features of the book. It is the honest and lucid statement of authors of wide reading and much experience in the subjects dealt with in it. Genito-urinary diseases by Keyes should be read by every medical practitioner. The publishers have done their share splendidly.

INTERNATIONAL CLINICS.

A quarterly of Illustrated Clinical Lectures and especially prepared original articles on Treatment, Medicine, Surgery, Neurology, Pediatrics, Obstetrics, Gynecology, Orthopedics, Pathology, Dermatology, Opthalmology, Otology, Rhinology, Laryngology, Hygiene, and other topics of interest to students and practitioners by leading members of the medical profession throughout the world; edited by S. O. J. Kelly, A.M., M.D., Philadelphia, with the collaboration of Drs. W. Osler, J. H. Musser, Jas. Stewart, John B. Murphy, T. M. Rotch, John G. Clark, James J. Walsh, J. W. Ballantyne, John Harold, Edmund Landolt, Richard Kretz, with correspondents in Montreal, London, Paris, Berlin, Vienna, Leipsic, Brussels and Carlsbad. Vols. I and II, Thirteenth series, 1903. Philadelphia: J. B. Lippincott Company. Montreal: Charles Roberts, 1324 Ontario street. Price, $2.25 per Vol.

International Clinics are well known to the medical profession. The publication is now in its thirteenth year. These volumes are issued quarterly and average about three hundred pages. The paper, printing, binding and illustrations are of the very highest quality. The range of subjects covered in these volumes is as wide as the practice of the healing art permit of. Clinical lectures and special papers are to be found from the best known teachers and writers. In these volumes there is the happy combination of the original articles

and the digest of quarterly progress, and each volume contains a carefully prepared resumé of medical science for the quarter. These volumes are of much value as works of reference, as the articles are all of such a character as to render them authoritative. The volume for July contains a symposium on the summer diarrhoeas of children, and furnishes the reader the latest views upon these disorders and the best methods of treatment. These volumes of lectures and special reviews of medical literature will well repay a careful study of their contents. It would be impossible to review all the lectures; but one instance may be selected Dr. Alexander Haig, of London, contends that a common cold is due in nearly all cases to the presence of an excess of uric acid in the blood, or a condition of collaemia, as he calls it. When this condition is present the cold acts, and then the germ. Dr. Haig would define a common cold as collaemia, plus the local action of cold, plus a microbe. We can commend "International Clinics" to our readers.

WOOD'S REFERENCE HANDBOOK.

A Reference Handbook of the Medical Sciences embracing the entire range of Scientific and Practical Medicine and Allied Science. By Various Writers. A new edition, completely revised and rewritten. Edited by Albert H. Buck, M.D., New York City. Vol. VI. Illustrated by chromolithographs and seven hundred and sixty half-tone and wood engravings. New York: William Wood & Company, 1903. Price, in cloth, $7.00.

This volume, the sixth in the work, is a mammoth one, consists of 1004 pages, has 153 well known contributors to it, and begins with mass and ends with rye. Like the previous volumes of the set it is a handsome one—being well bound, printed, and illustrated. The very best of material is used. It is a credit to the publishers, the editor, and the contributors; and will prove of the utmost use to those who consult it. Six volumes of this mounmental work have now been issued. It can be said that it is a unique work in many ways. The entire range of subjects of medical and allied sciences are included in the scope of this work. The amount of space accorded to the various subjects is carefully allotted. While all prolixity is avoided, the more important topics are fully discussed. These volumes constitute a complete medical library in themselves. The alphabetical arrangement of the articles permits of very ready reference to any one. In all cases where the same subject has several names,they are all given with the statement under which one the subject is discussed. Thus, under "ovulation," the reader is told to "see menstruation"; and under "osteosarcoma" to "see sarcoma." In this way all confusion and difficulty in finding the articles are avoided. We can recommend the Reference Handbook of the Medical Sciences as a most valuable publication.

MANUAL OF MEDICINE.

By Thomas Kirkpatrick Monro, M. A., M. D., Fellow of, and Examiner to, the Faculty of Physicians and Surgeons, Glasgow, Physician to Glasgow Royal Infirmary, and Professor of Medicine in St. Mungo's College; formerly Examiner to the University of Glasgow, and Pathologist to the Victoria Infirmary, London. Baillière, Tindall & Co., 8 Henrietta Street, Covent Garden, 1903. Price, cloth, 15s.

This volume is a solid crown octavo one of 900 pages. It appears for the first time. The work claims to be specially written for senior students and junior practitioners. It appears to strike a happy medium between the manuals that are too small for the student and those text books that are too large.

The subjects discussed in works on the practice of medicine find a place in this manual. The classification is particularly happy. In the arrangement of the affections of the several systems, the author has followed mainly such well-known writers and teachers as Sir. W. R. Gowers, Sir W. H. Broadbent, and Professor Osler. But he has introduced his own views on the grouping of diseases.

Each disease is succinctly, but clearly, discussed under the headings definition, etiology, morbid anatomy, pathology, symptons, diagnosis, prognosis, and treatment. The statements under each heading are brief, clear and reliable. Indeed, it is a big book so far as the amount of really useful matter is concerned, all padding being studiously avoided.

It is a matter of no small pleasure to read the sections on treatment. There is no difficulty in understanding what the author means. He gives his opinions on treatment with that decision that leaves no doubt. Upon the whole, the author is an optimist in treatment. He has considerable faith in the value of drugs in the treatment of disease. The perusal of this work cannot fail to have a stimulating influence upon the reader. Personally, we dislike a pessimist in theraputics. It affords us much pleasure to recommend this work of Professor Monro.

THE REFRACTION AND MOTILITY OF THE EYE.

For students and practitioners, by William Norwood Suter, M.D., Assistant Surgeon Episcopal Eye, Ear and Throat Hospital, Washington, D.C., illustrated with 101 engravings in the text and 4 plates in colors and monochrome. Lea Brothers & Co., Philadelphia and New York, Publishers.

In presenting this small book to the profession the author has endeavored to please and instruct both the beginners and advanced students and practitioners. The first part of the book treats very fully of the theory of refraction and gives prominent space to the mathematical formulæ. A little less of the mathematical formulæ would not detract from the work.

The methods of determining the errors of refraction occupy 36 pages, and the author has written on this topic with very great clearness and simplicity. In referring to the treatment of astigmatism by surgical measures Suter says: "The impossibility of regulating the result renders it improbable that this method will come into practical use." In the chapter devoted to Disorders of Motility the author has made the subject read in a very entertaining way. The various muscle tests are fully illustrated as well as some of the commoner operative measures. The make up of the book is in the usual excellent style that marks Lea Brothers' publications.

MISCELLANEOUS.

THE VALUE OF ANTISEPTIC DOUCHING IN GYNECOLOGY AND OBSTETRIC WORK.

BY C. H. POWELL, A.M., M.D.

Professor of Physical Diagnosis and Clinical Medicine,
Barnes Medical College, St. Louis, Mo.

THE systematic treatment of both lying-in patients, as well as those who so frequently come to the physician for a long and complex line of disturbances referable to the uterus and its adnexa by the application of various agents in the oft-used and oft-abused douche, is a fact well known by all physician, but like all good things many abuses have crept into this time-honored custom. In this article I will at first call attention to the indications for the douche, and then secondly give the class of agents most frequently used, with special reference to what, in my experience approximating a period of twenty years, has been the most satisfactory. In obstetrical work the douche is usually ordered during the nine days confinement to the bed, and also subsequently until conditions satisfy us that the uterus has returned to its normal size, and further evidence of the lochial or other discharge has entirely ceased. Corrosive sublimate, one to three thousand, or carbolic acid, one dram to the quart, are the agents usually employed, but in the practice of a very great many physicians the temperature of the water itself receives but little consideration. It goes without saying that in order to receive the best results obtainable the water should be as hot as can be borne, as the well-known antiphlogistic property of hot water will have a most salutary influence on the hyperæmic sensitive areas. In the application of a douche also for the relief of a discharge due to a sub-involuted uterus we must not lose sight of the causes of this abnormal condition, there may be placental tissue in the uterus or a lacera-

tion of the cervix, or a tubal abscess, or an adjacent inflammation directly responsible for the difficulty, and in the application of our douching we must not hesitate to satisfy ourselves in every essential particular regarding the possibilities in the premises. Douching, it is true, will constitute a very valuable means for curing these cases, but we cannot rely upon this remedy alone, and to the exclusion of other things. Glycerine has been recognized the world over for its potent hygroscopic properties, and of this class of cases in particular it is found valuable as an efficient application on absorbent cotton made into a tampon not too large, and around the absorbent cotton some antiseptic wool or sterilized non-absorbent cotton be enveloped. This arrangement prevents the absorbent cotton from collecting the secretions, which not only reduces its size but thereby materially lessens the efficacy of the glycerine therapy. Now, in the selection of corrosive sublimate, or carbolic acid three serious problems at once confront the physician. In the first place both of these agents have a most pernicious influence upon the kidneys. Secondly, both drugs are quickly absorbed into the system, notably corrosive sublimate, and I can well recall in this connection when an Interne in the St. Louis Female Hospital fourteen years ago that the systematic custom of douching lying-in cases with a 1 to 3000 corrosive sublimate solution had to be changed to a 1 to 5000 owing to the development of fever, diarrhœa, and other indications of a toxic nature. Thirdly, corrosive sublimate and carbolic acid are dangerous drugs, and should not be placed in the hands of the patient or her family, as many grave mistakes are reported. The most deplorable accidents belong to carbolic acid which burns the fingers of the attendants, or if ignorantly or carelessly poured into the douche bag and an injection forthwith given the patient Carbolic acid is heavier than water, and settles in globules in the bottom of the bag. With the first exit of the water the acid escapes in its nascent state unmixed and burns the patient severely. Now it is not my intention to censure these useful drugs, for there is no doubt of their value in the treatment of septic cases. But with a long continued observation as to the aforementioned objections I looked around me for an antiseptic agent in my obstetrical and genecological work that could be relied upon to bring about the desired results, and that was minus the serious objections. The market, it is true, is flooded with antiseptics, but I must confess in my experience failure has been my lot. I almost felt like the man who was shipwrecked and cast adrift upon the sea, whose urgent thirst tempted him to cry out, "Water, water everywhere, but none nowhere to drink." In my predicament I used Glyco-Thymoline, and the following cases have induced me to conclude that the remedy is par excellence the best and safest antiseptic to be obtained.

Case First.

Retained Placenta Giving Rise to Severe Toxic Phenomena.

I was called in great haste to see a Mrs. H., who was taken with a severe chill, and whose headache was so severe as to necessitate her giving vent to the most piercing shrieks. A hypodermic injection of morphia at once relieved this system, and a few questions forthwith led to the fact that no menstruation had been in evidence for two and a half months up to four days previous, when blood passed in considerable quantities in the shape of clots and liquid, and after persisting for three days ceased. I found the belly swollen, and tympanitic, very sensitive as to palpation. An examination disclosed the uterus soft and boggy, the os patulous, and a softened breaking down placenta extremely foul presenting itself. With the patient in Sim's position and using Sim's speculum I completely curetted the uterus, removing every vestige of the placenta, following which I washed out the organ with a Glyco-Thymoline solution, consisting of two teaspoonfuls of Glyco-Thymoline to a pint of hot water. The following morning the temperature had fallen from 104 to 99. I placed the lady on hot douches of Glyco-Thymoline in the same proportion as above and dismissed her in three days entirely recovered. As a matter of course the decomposition of the placenta with saprophytic and other septic absorption was the cause per se for the chill, fever and other phenomena, and the removal of this was of prime importance, but the efficient antiseptic Glyco-Thymoline was quite a factor in the quick return to health.

Case Second.

Sloughing Uterine Fibroid.

A few weeks ago I was consulted by Mrs. McL., aged 47, widow, for a continued fever with persistent metrorrhagia. An examination showed the presence of a sloughing uterine fibroid. This growth was firmly attached to the uterus, non-pedunculated, and the discharge was extremely offensive. Under chloroform enucleation with the curette and scissors was attempted with but partial results. An hysterectomy was subsequently advised but refused by the patient, who was given hot Glyco-Thymoline douches twice daily, mainly to correct the fetor. The result of this was most decided, but the septic processes were so much in evidence that the patient finally submitted to an hysterectomy. Death occurred on the day following, and on post-mortem multiple abscesses were found in the liver, and parenchymatous changes in heart muscles, and kidneys. The entire uterus was transformed into a sloughing mess. The potent influence of the Glyco-Thymoline, in correcting the obnoxious odor, was very pronounced in this case.

Case Third.

Adherent Placenta in Multipara, Rupture of Labial Abscess during Delivery.

The subject of this report was a very corpulent mulatto woman whose weight approximated 225 pounds. Labor was very slow but the child was born in a normal state. During its birth however, the woman complained a great deal of a sharp pain around the perineum, and as the head cleared the orifice a labial abscess gave way emitting, fully a tablespoonful of very foul smelling pus. This was not all, but the placenta was firmly attached and suddenly a great gush of blood welled from the vagina. Crede's method failing to detach the placenta, and the uterus being greatly relaxed, the case was a desperate one, for to introduce the hand into the uterus was a serious menace under the circumstances. Still no other alternative presented itself. The hand was introduced into the uterus, the placenta removed and the entire uterine canal irrigated with Glyco-Thymoline, in this case a 50 per cent. solution being used. Subsequently the patient was douched twice daily with the weaker solution. Suffice to say that the temperature never went above normal during her lying-in, and she arose up on the tenth day free from any complication whatsoever, which speaks volumes for the antiseptic and prophylactic properties of Glyco-Thymoline.

Case Fourth.

Occiput Posterior Position with Delivery From Superior Strait with Forceps.

On the night of October 21st last I was called in great haste to see Mrs. W. J. S——, in her first confinement. Os dilated slowly, owing to premature rupture of bag of waters. Patient was hard to control. Under anæsthesia child was found to be at superior strait, and with great difficulty engagement was effected. Following engagement delivery was readily effected, child was alive and active, cervix lacerated and perineum torn to sphincter ani. Repair of both structures was done forthwith, the cervix with silver wire and the perineum with silkworm gut sutures. Glyco-Thymoline douching was then begun, and complete repair of the injured structures was the final outcome, with the entire absence of fever and other complications. Without elaborating further on the conspicuous characteristics of Glyco-Thymoline in obstetrical work I wish to point out its value in the treatment of woman's diseases generally. In order to carry out my intention I will refer to the follow-memoranda taken from my case record.

A Large Erosion in a Lady 52 Years of Age—Mistaken for Cancer.

This case was sent me from Calloway County, Missouri, and was diagnosticated as malignant. It certainly looked suspicious, considering the age of the lady together with her anæmia, and the further fact that she had an enlarged gland on the left inguinal region. I at once applied equal parts carbolic acid and tincture iodine to the eroded *os uteri*, then applied a tampon of glycerine and glyco-thymoline equal parts. I gave iron, quinine and arsenic internally, applied a sand-bag over enlarged gland instructing the lady to remain on her back. Glyco-thymoline was used to this erosion in its pure state daily on a tempon except every fourth day, when the iodine-carbolic acid combination would be applied, followed immediately thereafter with the 50 per cent. glycerine and glyco-thymoline solution. Under this treatment, the condition promptly disappeared in three week's time, and the old lady returned to her home in splendid physical condition.

A Case of Irritable Bladder from Antiflexion of the Uterus

We physicians come in contact with so many cases of this character of bladder disturbances, due to mechanical and neurotic manifestations in women, as to render discussions particularly interesting. My time will hardly permit me to expatiate extensively on cases of this nature, but I wish to state that hyperacidity of the urine, and bacteria in the bladder are responsible for a large proportion of suffering in subjects. I find a solution of bicarbonate of soda, a teaspoonful to a pint of lukewarm water, to which a tablespoonful of glyco-thymoline is added, a most valuable combination to wash out the bladder with and obtain most prompt and permanent results. Even in cases where the uterus is turned over against the bladder, the salutary influence of cleansing out the viscus with this efficient alkaline and antiseptic solution will be found attended with merit second to none else. In concluding my article, I will suggest a few "don'ts" that may be valuable to busy practitioners.

Don't prescribe a daily or twice daily douche for a patient without giving implicit instructions, as the usual way ladies take a douche in the upright posture conflicts with the ends aimed at.

Don't expect a douche to cure a patient of an offensive discharge unless you are aware of the cause of the discharge.

Don't prescribe carbolic acid without first giving implicit instructions as to first preparing the solution in a pitcher, and not in the syringe as is often done.

Don't prescribe a continuous douche for any patient. Think of the Irishman who you sometimes order a dose of salts for. If you do not see Pat for a year, the chances are at your first introduction Pat tells you he is still taking salts. Injections in contact with the uterus for a prolonged period, as with salines are injurious, and assist materially in the production of *prolapsus uteri.*

Don't forget, in treating woman, that she has other organs beside her uterus.

Don't think yourself "the real thing" if your patient recovers from an acute disease. Remember the maxim, "*Natura curat, medicus senat morbus.*"

Don't perform too many ovariotomies. Your future wife might be one of your patients, and a fruitless union is a sad commentary on the present century.

Don't expect too much from trachelorrhaphy. The best gynecologists are relegating the operation to the past, save in exceptional cases.

Don't, last but not least, fail to bear in mind the value of recognizing a valuable and trustworthy antiseptic, and use glyco-thymoline when such an agent is indicated.

A REPORT OF TWO CASES OF SEPTICÆMIA SUCCESSFULLY TREATED WITH H_2O_2 MEDICINAL.

By E. J. MELVILLE, M.D., Bakersville, Vt.

CASE 1—Feb. 6th, 1894, was called to see Homer B., aged 14, who had been ill with a swelling in right groin for three weeks. Had been treated with hot applications, etc., but during that time abscess continued to grow, and at the time that I first saw him fluctuation could easily be made out. Temperature 102.5°F. Pulse 120, Great emaciation. Constant vomiting. Daily chills followed by copious sweating, denoting pus absorption. Diagnosed appendicular abscess and advised operation. This was done the same day under local anesthesia.

Much pus escaped, and several small portions of fecal matter, denoting an opening into the gut.

Temperature remained high, and sweats continued for three days following operation, indicating the presence of pus. I then began the use of Marchand's H_2O_2 medicinal, (15 vol.) so as to destroy the pus and morbid element which were still there. I injected 4 oz. of H_2O_2 with a glass syringe slowly, while the patient was in the Trendelenburg position, and allowed it to remain about 15 minutes. The boy was then lowered and laid upon his right side, when large quantities of pus, broken tissue and gas flowed from wound. By gentle compression and massage of

abdomen, much more was obtained. Large quantities of sterilized gauze were packed over the opening in right side.

The flushing out with $H_2 O_2$ etc., was repeated every twelve hours.

The improvement was prompt. Temperature reached normal, and remained so after 48 hours.

Wound was now washed out with the $H_2 O_2$ daily for four weeks, after which time the abdominal wound and fæcal fistula were entirely healed. Patient has since developed into a full grown laboring man, and has had no hernia, nor any outward symptoms of his severe illness.

CASE 2.—March 2nd, 1897, was called to see George T., a farmer, aged 38 years, who had been in the care of a Christian scientist for four weeks for a large swelling in the right side. The treatment consisted in endeavoring to persuade the man that he was not ill, and insisting that he take active exercise. Found patient in recumbent position with knees flexed upon abdomen, and suffering intense pain over sides of abdomen, which was filled with a soft fluctuating mass. Temperature 103.80F. Pulse 130. Opened abdomen under local anesthesia and evacuated three quarts of foul smelling pus.

Used 4 ozs. $H_2 O_2$ full strength, slightly warmed, after pus had ceased to flow, and repeated procedure every twelve hours.

This caused cessation of all untoward symptoms for eight days, when chills and fever returned.

Another swelling was then noticed in the right lumbar region, which, upon opening, gave one quart of pus.

Flushed this second abscess in same way. The temperature soon reached normal, and the patient made an uneventful recovery, with exception of swelling of inguinal glands in left groin, which yielded in three days to hot fomentations.

For conclusion I might say, that in the above cases I used no medicines internally, and nothing externally but clean linen, plain gauze and $H_2 O_2$ (Marchand's).

The operations performed were simply opening abscesses, no drainage tubes, no flushing with salt solution or water, and no packing of abscesses.

Though I used the $H_2 O_2$ in large quantities, and made no especial effort to see that all the solution returned, and though it was used over a period of several weeks, no untoward symptoms developed from its use.

The above gratifying results induced me to use Hydrozone (which yields 30 times its own volume of nascent oxygen instead of 15 volumes) in other cases where a large amount of pus was present, with such good results that I am now giving the preference to this very strong solution.

R. A. REEVE, B.A., M.D., LL.D.,
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THE LATE JAMES W. MCLAUGHLIN, M.D., EX.-M.P.P.,
Registrar for West Durham.

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* THE SURGERY OF TO-DAY.

By ALEX. HUGH FERGUSON. M.D., Chicago.

Prof. Clinical Surgery, Illinois State University (P. and S. College); Prof. Surgery, Chicago Post-Graduate; Surgeon-in-Chief, Chicago Hospital; Fellow of the American Surgical Association, etc.

Mr. President and Members of the Canadian Medical Association.

IT is a double pleasure for me to deliver this address. One is professional and the other social. In the first place, it has given me a plausible excuse to attend the Canada Medical Association a second time and profit by its proceedings, as well as enjoy the bounteous hospitality associated with it. And the very courteous invitation through my old friend, Dr. Wishart, I could not well refuse, affording me, as it does, another opportunity of meeting my old friends and college mates.

For the distinction and honor thus conferred upon me, an aberrant Canadian, I have just reason to be proud and let me assure you of my highest appreciation of it.

In selecting a subject for my discourse I had no supercilious notions of highly entertaining you, nor did I dream of assuming the role of teacher. I determined on "The Surgery of To-day," I know not why, but I did. Standing thus, between the past and future between our inheritance, the surgery that has been done, and the work that lies before us to do—I hope you will bear with me, if I should deviate from the ever fleeting line of my subject and refer now to the one phase of it, and then speculate on the other.

Much of our surgery is empirical and not rational, and hence the opportunities for original research are great. That which has stood the test of time is retained; some of it, no doubt, will be perpetuated; while again, long cherished theories and practices must vanish in the light of new discoveries and inventions. I take it then that I have considerable license in selecting and in emphasizing what, in surgery, seems to me, to be of most importance.

In no time in medical history has surgery been as international in character as it is at present. In the processes of the development of the high grade of surgical efficiency that is now established, we find them teeming with instances of hardships in times of peace and war, of

* Address delivered at the Canadian Medical Association, London, August 25, 26, 27, 28.

examples of life sacrifices, daring deeds, unexcelled industry and charitable acts, the most altruistic to be found in any calling or profession, for

> "'Tis what the happy to the unhappy owe,
> For what man gives, the gods by him bestow."

The surgeons of generation after generation have been stimulated to emulation by the precepts and examples of the great surgeons of the preceding generation, and the sum total of their true labors we now cherish, practice and enjoy. The differentiation of the work done in various countries and the designation of it as being national, no longer pertains. We do not now recognize British, German, French, Italian, or other surgery as being different from one another, or from that of our own. An American gave anæsthesia to the world, not to America alone, and equally true it is that a Briton gave us practical antiseptic surgery, founded on the bacteriological researches of a great Frenchman. In looking over surgical literature it is noticeable that the surgeons who had played the most prominent parts in the evolution of our art and science had walked the hospitals in other countries, sat at the feet of masters, studied in foreign laboratories and conducted experiments of their own. A personal friendship was thus formed between the profession of one country and another, and the knowledge of one became the knowledge of all, until now reciprocity is complete.

The western men unhampered by the restraining influences of ancient customs and effete precedents have been, for some time, and are now more than ever, scattering scientific and practical seeds from the tree of knowledge that has been transplanted into our virgin soil, to all the world through innumerable channels, so much indeed as to command the attention and respect of the wise and noble men of the east. The increasing number of distinguished surgeons visiting us every year is complimentary. In addition to individual visitations of doctors from one country to another and conveying principles and practices to and fro, there are other professional avenues through which surgical knowledge finds its way to all nations. Chief among these are the publication of books, monographs and treatises; the issuance of journals; and the publications of transactions of special societies.

The influence of professional gatherings, from the smallest local society to the great national associations, with their surgical sections, reaches far and wide. Then comes the special surgical associations, international congresses and now an "International Surgical Association" is organized, by representative surgeons from each country, to work on special surgical lines. This reaches a plane in search of scientific truths that has never been attained before in the surgical world.

While surgical societies have their special value and place, there can never be any danger of their teaching causing a separation of labors of the physician and surgeon. So long as the internal organs of man become disordered and diseased they shall need medicine. It is an indisputable fact that the best results in surgery are obtained, not by a competitive struggle between the surgeon and physician, but by a graceful co-operation, one with the other for the benefit of the sufferer.

This is the result of education and culture. How different now from the time when in 1774, Von Wuthwehr of Freiburg suggested a union of surgery with medicine, the students threatening to mob him!

The surgical appliances, instruments, materials used, the aid to diagnosis, the technique of operations and the operations themselves are universally the same. The inventions and new discoveries of different individuals are eagerly published and heralded with lightening speed all the world over. It is easy for me to go on with these glittering generalities, but that will not suffice for an occasion like this. So I shall now proceed to do my duty.

While aseptic precautions make it possible for us to expose and explore the brain, with comparative impunity, still, owing to its high and special organization, its feeble recuperative, reparative, or, if any, regenerative power, outside of raising depressed fragments of bone, compressing it, trying an artery and opening an abscess, the practical field is limited. The surgical treatment of most diseases of this organ is but seldom satisfactory. It is true that we perform craniotomies for the microcephalic, supply intra-cranial drainage for the hydrocephalic, and oftentimes benefit them, but I have yet to see an intelligent citizen develop from one of these subjects. What is needed for the more successful removal of brain tumors is an earlier diagnosis, more accurate localization, and probably better technique. Haemorrhage, so often causing death, in these operations, is no longer dreaded when we temporarily clamp the carotid arteries.

Reports of successful cases of the removal of brain tumors are becoming more and more frequent. Obscure disturbances of the brain, following severe injuries, such as mental cloudiness, irritation, stupor and persistent headache, are often relieved, when one, two, or more ounces of cerebro-spinal fluid are removed by lumbar puncture. The procedure is so simple and free from danger that it should be more generally employed for the relief of cerebral tension. As a means of diagnosis of injuries of the cerebro-spinal axis, it is not reliable. For the probable relief of epilepsy or insanity following trauma, the trephine is invariably applied The x-ray is a welcome aid in the diagnosis of obscure fractures, bone

depressions and for the detection of bullets or other foreign substances carried within the cranium. Division of the sensory root of the Gasserian ganglion has been found successful in the relief of tic douloureux. This operation may rival the removal of the ganglion.

When the source of irritation which produces the fit in "essential epilepsy" is clearly defined, surgical treatment may be found useful when carried out according to the nature of the disturbance. The present mass of evidence in literature is rather against operations in this disease.

The distressing aspects caused by facial palsy and facial contractions have found relief in anastomosis of the spinal accessery or hypoglossal to the facial nerve—a procedure recommended five years ago. It is based on well known physiological laws of repair, and supported by carefully conducted experiments. New plastic operations devised in the last few years for the early, and even late closure of cleft palate, give results vastly superior to the older methods. The earlier congenital defects of the palate and lips are repaired the better will be the speech. All defects should be closed before the child begins to talk. The temporary closure of the cartoid arteries is a distinct advance in preventing hemorrhage while operating on the head and neck. It is founded on clinical experience and sustained by experimental researches. Many have died from loss of blood, and from shock of even poisoning, caused by a prolonged anæsthesia in trying to check the hæmorrhage in such operations as the removal of the parotid gland, tongue, superior maxilla and post-nasal growths, when a simple temporary clamping of one or both carotids would have saved them and prevented that indescribable grief and anguish of relatives, sometimes worse than death itself. Not to ardently seek to know and utilize all we can of practical advances in surgery is nothing short of "man's inhumanity to man."

In regard to the thyroid gland, let me say that its behaviour in health and indisease is still an enigma. The disease affecting it and mysteriously disturbing the entire economy of the sufferer, some parts more prominently than others, that puzzles us most, is exopthalmic goiter. The problem of its pathogenesis is unsolved. How then can a rational surgical treatment be prescribed. If we wait for some theory to explain all its phenomena history will surely repeat itself. In our desperation from the almost invariable uselessness of internal medication, thyroidectomy and sympathectomy have been resorted to by surgeons and with considerable success. The present statistics giving 76 per cent. of cures, when the organ is removed, and 63.8 per cent. after bilateral extirpation of the cervical sympathetic nerves. I am apprehensive that these

excellent results will not be universally obtained. It is worthy of note that the mortality in thyroidectomy, mainly from croupous pneumonia, embolism of the sylvian artery, heart failure, and thyroid intoxication, is considerable, while that of the latter operation is practically nil.

Carcinoma is the most formidable and common surgical disease in the mammary region of the body. Let our radical operations for its extirpation be ever so extensive, we are never certain that it is entirely removed, nor can we positively tell whether lymphatic extension is near or far, even by the most careful microscopic examination of the gland and structures removed. Another grave uncertainty confronts us, that is an early dissemination of cancer to the internal organs sometimes occurs. This has always been a perplexing clinical problem, but the discovery of the haemolymph vessels has solved it satisfactorily, as they establish a free communication between the lymphatics and blood vessels. Through them, small particles of the carcinoma are taken up into the general circulation and then distributed to internal organs. In the face of evidence, from the most reliable sources, to the effect that cancer is rapidly on the increase, and in view of our sad clinical experience in dealing with it, except at a very early stage, it is high time that a cure be discovered, that will knock it out as the serum does with diphtheria. It is a misnomer to speak of cancer as returning after an operation. The fact is that its extirpation was not complete. The *en masse* removal of the breast, axillary fat, and lymphatics below the clavicle, with the sacrifice of a part, or the whole of both pectoral muscles, have been slowly but surely accepted by surgeons as the proper thing to do in all cases of cancer of the breast. In order to obtain better results, we must go still farther, and remove the supra-clavicular and mediastinal glands in at least some of the cases, as is now carried out by only a few men. In comparatively young and otherwise healthy women, the practice of first attacking the mediastinal and cervical glands, whether palpable or not, and at a second operation remove the infra-clavicular and axillary lymphatics, along with the breast, is commendable, safe and successful. Inoperable cases of breast cancer present themselves before, and also after, operations have been performed. For the treatment of these, the much abused x-ray is a favorite remedy, but assuredly most disappointing except in skin involvement alone. Oophorectomy is on trial for these same inoperable subjects. Interscapulo-thoracic amputation, and amputation through the shoulder joint have been performed to relieve the patient of the swollen, useless, and painful arm, which may follow a radical operation for mammary carcinoma.

There have been a series of successive triumphs in attacking wounds of the main organ of our circulation, the heart, the pericardium being bodly opened and that vital organ sutured. End to end anastomosis of the popliteal, brachial and femoral arteries has been successfully executed, and the management of wounds of the large veins easily carried out. The surgery of the lungs offers a field for future mark, and what has been already accomplished, although not of the most satisfactory character, is encouraging. Visceral pleurectomy or decortication of the lung for chronic empyema is the last practicable procedure to be recommended, after drainage, re-section of ribs, and thoracoplasty have failed to effect a cure. This operation, to my own observation, has saved several lives.

Since I entered upon the study of medicine, twenty-six years ago a retrospect of the advances in surgery would be simply bewildering My vivid recollections of septic gangrene, sloughing phagedæna, flaming erysipelas, pyemia and septicemia are still clear, and this, too, was at a time when antisepsis had gained considerable acceptance.

I shall never forget the first operation of a major character I witnessed. It was amputation near the hip joint, and the patient practically died on the table. The scene is now before me. The crowded amphitheatre; the active arena; the mist of carbolic acid spray, half obscuring the patient, operator, assistants, nurses and honored guests; the smell of ether; the outstretched sleeping patient; the glittering instruments in 1 in 20 carbolic; the new white gown on the surgeon, now introduced for the first time; the winding of an elastic cord about the hip and body of the patient; the long amputating knife, twice traversing the limb obliquely; the hot room and pale freshmen; the profuse bleeding and quivering flesh; some of the boys walking out, perspiring freely; the severance of the bone, by a live electro-cautery wire, then being on trial, and the long time it took; the cold shivers; the clamping of arteries and veins; the twisting of the femoral artery eight times between two forceps, and torsion of other vessels; the sea sponges soaked in hot water and, with a forceps, placed between the flaps for a few minutes, controlling capillary oozing; the boys yet pale, collars wilted and handkerchiefs soaked; then the active spray apparatus giving out, and then a clearer view of blood-stained men, women and things generally; more boys walking out; the sewing of the stump with silk, rubber tube inserted and dressed with twelve layers of carbolated gauze; the operation completed; seeing stars; the patient's last breaths—death rattles; and finally came the announcement from the surgeon: "There will be no more operations this day,"—a great relief to all.

This bloody and fatal operation was a solar plexus blow to most of us freshman. I can always describe it.

It would be invidious to compare the surgeons of that time, but those of them still alive no longer see deaths from hæmorrhage in amputations at or near the hip joint, nor the frequent loss of life from infection following clean operations. I have described the amputation of a quarter of a century ago to infer a comparison between then and now, which I need not draw to an end, but just think of two things in this connection,—the bloodless major amputations and exceedingly low mortality of to-day.

In the saving of limb and life in diseases of the extremities many improvements are now in use as compared with even a few years ago. Take, for instance, in bony ankylosis of the large joints—the hip, knee and elbow. Instead of the old sweeping excisions, a curtain of muscle or fascia is carefully fixed between the ends of the bones after a minimum amount of resection is done, which not only prevents a reunion of the bones, not interfering with the longitudinal growth of the bones in children, but also furnishes an excellent false joint. The bloodless operation for congenital dislocation at the hip joint is a welcomed advance in orthopedic surgery. It is that over which America has recently been thrown into hysterics. The open operation that shall cure the cases not amendable to the bloodless method is not yet invented. Time does not permit me to speak of the many other valuable advances that have been made in the surgery of the extremities.

In pre-antiseptic days, the surgery of the abdomen, including hernia, was far behind that of the extremities, for reasons that are quite clear to us now, but since we have learned to invade the peritoneum without causing inflammation of it, the advancement of abdominal surgery has far outstripped that of any region of the body. On account of the great frequency of hernia, and the proneness to strangulation, operations for its cure by the open method became established. A young person to-day is not advised to wear a truss if he is otherwise healthy. An operation is performed, and he is cured. Any operation for the cure of oblique inguinal hernia that does not take into consideration the various local causes and proper relationship of structures should be discarded. Empirical procedures include all the operations or combinations of them devised, in which the cord is raised out of its bed. By following these, the science of surgery loses its charm in the search of truth, and the art its beauty. The only true surgical operation yet produced for the radical cure of oblique inguinal hernia is the typical operation, because it counteracts the local congenital defects, sutures the structures where they

normally belong, and cures the affection. It is the simplest, because it is based on an accurate knowledge of the anatomical defects in this region. We now know that the presence of a large infundibular process, a non-closure of the funicular process, and increased intra-abdominal pressure are not all the main causes of hernia. In order to verify what I have said, let any surgeon raise a semilunar flap of skin, fat and both layers at superficial fascia, slit up the aponeurosis of the external oblique and carefully measure the origin of the internal oblique muscle from Poupart's ligament, and he will find that its origin is deficient more or less in almost all cases of oblique inguinal hernia. In some instances the muscle has no attachment at all to Poupart's ligament, therefore the hernial protrusion has a sausage-shaped appearance, and bulges the skin, nearly the entire length of Poupart's band. In a normal inguinal region the internal oblique muscle comes down and completely covers and ably protects the internal ring. Let us not forget that this muscle is the only muscular structure in this region, and is also the most powerful.

If it is not in its proper position, how can it protect the internal ring during active intra-abdominal pressure, as in lifting, jumping, etc.?

Remove the sac, suture the internal oblique to the inner aspect of Poupart's ligament, down two-thirds of its length at least, and at the same time pick up the slack in the transversalis fascia with the same sutures, thus fitting it around the root of the cord, so as to make a new internal ring. Now sew the aponeurosis of the external oblique, coapt the skin, and the operation is completed. The cord is not disturbed, nor the testicle endangered. The results are better than by any other method, and this statement can be supported by the reports of several operators in over a thousand cases in all.

The history of abdominal surgery reads like a novel. Injuries and diseases of the structures and organs, within and near this cavity, furnish abundant material for several specialties. There is the special abdominal surgeon, who incidentally repairs the perineum, the gastrologist and enterologist, the gynaecologist, proctologist, a genito-urinary specialist, and others, but the general surgeon claims all, and may be looked upon as a balance wheel in this line of work.

The liver, the largest organ in the body, on account of its friable, vascular structure, and its bile-secreting function, was dreaded by the surgeon till of recent years. It may be reached through the abdominal or thoracic walls, and hepatotomy performed for abscess, hydatid cysts, or cholemia. We do not hesitate to remove benign and malignant tumors from it, when not too extensive. The mortality from partial hepatectomy is not more than 12 per cent. The bleeding is not difficult

to control, as one at first sight would think. Ascites due to cirrhosis of the liver is now cleared away through a collateral circulation, established by stitching the omentum to the abdominal wall or spleen.

It is only thirty-five years, 1867, since the first cholecystotomy was performed for gall stones; and seventeen years, 1886, since the relation of typhoid fever to cholelithiasis was first pointed out. That bacterial infection is the cause of gall stones is now accepted. Early gall bladder surgery is easy and safe. While late operations, where complications have arisen, are difficult, and dangerous. The irritation of gall stones is surely an etiologic factor in cancer of the gall bladder. Cholecystotomy has the widest range of usefulness. Cholecystectomy, commonly performed, is an operation that should be seldom indicated, if the attending physicians only realized the importance of early surgical treatment.

The symptoms and signs of active cholelithiasis are sometimes obscure, but usually they are so clear as to make a diagnosis easy. It is much wiser to face one per cent. mortality in immediate, than about ten times that risk in remote, operation. The conditions when the gall bladder should be removed are pretty well defined. It is the operation of choice in (a) complete stricture of the cystic duct, (b) thickened contracted gall bladder, already almost obliterated by inflammation, (c) septic gangrenous condition, (d) hydrops, and (e) in cancer.

Choledochotomy, like cholecystectomy, is an operation of necessity in neglected cholelithiasis. When it is performed and the stones removed from the common or hepatic duct, hepatic drainage is most likely indicated, whether the gall bladder and cystic duct are removed or not, for additional calculi may come away later. It is not necessary to suture the common duct.

I fail to see the necessity of long transverse or oblique incisions of the obdominal wall in order to expose the gall bladder and ducts. Unless the operator is clumsy, and inexperienced, or has large hands, the vertical incision to manage the gall bladder, and a curve inwards and upwards towards the ensiform cartilage when the stone or stones are in the common duct, is all sufficient.

The surgery of the pancreas, spleen and kidneys has enjoyed a new and substantial impetus the last few years. Acute and chronic pancreatitis have come under the knife, and a calculus has been diagnosed and removed from the pancreatic duct, the patient making a good recovery. The surgical treatment of chronic nephritis is quite beyond the experimental stage. Decortication of the kidney is an easy and safe operation, and although we cannot as yet definitely account for the

marvelous benefits that immediately accrue, two things prominently suggest themselves as a probable explanation, namely, the relief of tension, and the establishment of collateral circulation; and, too, the great determination of blood to the kidney after such a procedure must have a renovating effect upon it. Nephrectomy, nephrotomy and suspension of a floating kidney are established operations. Partial removal of a kidney is sometimes advisable in traumatism, or when a malignant growth is being extirpated and, in many conditions, where a circumscribed portion of kidney is involved.

Nephro-ureterostomy will, I am sure, be found indicated and successfully performed.

Ureteral anastomosis and uretero-cystotomy, although difficult in their execution, are very successful procedures. The task of removing impacted stones from the pelvic portion of the ureter is no longer considered insurmountable. The most reliable means of locating a stone in the genito-urinary track is by the x-rays. Transplantation of the ureter into bowel is an immediate successful operation, but ascending inflammation to the kidneys almost invariably follows, marring its usefulness.

In a system of surgery, published in 1866, the removal of the prostate is referred to in the following words: "Excision of the prostate has been recommended. It does not, however, appear that anyone has really ever had the hardihood or folly to perform it. Excision of the middle lobe would be less objectionable."

The experience of the last four years has placed both suprapubic and perineal prostatectomy as being feasible, practicable, and the safest and best treatment for prostatic hypertrophy, with a preference, in America, for the perineal route. The mortality is lower than that of any other major operation on the aged, even men over eighty years surviving it and enjoying life without the annoyance, or agonies, accompanying obstruction to the free flow of urine. If no other advancement in surgery were made, the last decade, except this one, offering as it does, relief to at least one-third of the male population over sixty years of age, surgeons could well hold up their heads with pride. The dangers of the catheter, aspirator, trocar and bougie are only too sadly known to need mention here. Another instrument that has been put to a practical test, and found wanting is the electro-cautery knife. It is a dangerous and clumsy affair, and only a small percentage of cases are at all benefited. Its use should be limited to (a) pathologic bar, (b) fibrous vesical orifice, and (c) sessile middle lobe, still quite small; and these conditions are more amenable to a perineal section, and with less risk to

life. A genito-urinary specialist can use the electro-cautery knife, but it takes a surgeon to remove a part or the whole of the prostate. The most difficult prostatectomies are in those cases that have been burnt, and only partially, or not at all, benefited.

The median perineal incision is the most surgical, as fewer structures are injured, and it furnishes the only proper route for drainage. Transverse cuts, semilunar curves, the Y-shaped and the inverted ⊥-shaped incisions, or modifications of them, are all right for the mediocre, but not for the expert, operator. Through a median cut of the perineum, and the membranous and a portion of the prostatic urethra, an educated finger feels what the exact obstruction is, without and within the bladder. It is the best prostatic depressor, enucleator and guide to the passage of the prostatectomy forceps, but oftentimes even he, who boasts of being long-fingered, fails to reach the parts desired, and has to resort to such aids as depressors, tractors, retractors and hooks, in order to see as well as feel what is being done. The exposure of the prostate, through a median incision, with proper retractors, is simple, complete, and beautiful. The removal of the lateral lobes first, with the aim of not injuring the ejaculatory ducts, facilitates a safe entrance into the bladder with the finger, depressor, or prostatome to deal with the middle lobe, which should be dragged into the perineum through the vesico-prostatic urethra. This is a subject I should like to dwell upon, and relate to you the story of the most gratifying experiences and brilliant results in surgery, but I must forbear.

While abdominal surgery began with ovariotomy, nearly one hundred years ago, owing to the high rate of mortality in those pre-antiseptic days, only the boldest and most enthusiastic men opened the abdomen at all. Up to 1870, the mortality was fearful when the abdomen was opened for any cause whatever. In some of the general hospitals, nearly every case of ovariotomy promptly died. From 1870 to 1885, the mortality rapidly decreased from over 80 per cent. to 4, 3, 2, 1, 0 per cent., in exact proportion to the knowledge gained of antisepsis and asepsis, as well as to that of improvements in the technique of operations. It is a rare accident at the present time for a women to die from the removal of an ovarian cyst or tumor. The rapid strides of abdominal surgery are revealed in the history of the glorious victories over injuries and diseases within the belly wall, in lessening suffering and saving life. Small and well equipped hospitals have sprung up throughout the land, like so many life-saving stations, vigilantly watching to save a sufferer on a boisterous and ruthless sea of trouble, and in despair. It may be injuries of all kinds that demand prompt attention by the local surgeon:

a daughter bleeding to death from gastric ulcer, a strangulated hernia, acute bowel obstruction, urinary obstruction, rupture of the bladder, perforating typhoid or other ulcers, extra-uterine pregnancy, and many other conditions too tedious to mention, but we must not forget acute inflammation of that small anatomical vestige, the vermiform appendix, that has probably caused more acute suffering and deaths than that of all abdominal organs combined. Appendicitis may well be looked upon, from a surgical standpoint, as an accident that needs a prompt operation, except in its very mildest forms, when delay may be safe for a convenient day and hour for the appendectomy. One may suffer with gall stone colic and jaundice for weeks, months and years, from renal colic for days and weeks, but from appendicular colic and pain only for hours, without imminent danger to life.

The indications for a gastro-enterostomy are in advance of any one method that can be pointed out as superior to the many practised. Bone plates and bobbins have had their day, but the anastomosis button is still in active competition with the needle and thread. The elastic ligature is the quickest, easiest and safest in its application, and experimental clinical evidences are so convincing that it is sufficiently prompt and thoroughly reliable in establishing an anastomosis between the stomach and the intestine.

In establishing end to end intestinal union, the anastomosis button has the advantage that it can be used where sewing cannot be done, and it is quickly inserted. It is not necessary to mention the objections to it, but be they what they may, the button is a good thing to have along when emergently called upon to treat intestinal obstruction. Of all the methods of suturing devised, some thirty-six in all, that which is intra-intestinal has recently gained most favor, and preferably by continuous to the interrupted suture. With a little practice it can be as rapidly applied as the extra-intestinal suture. A new procedure, known as "The Single Cuff Method of Circular Enterorrhaphy" has been devised. It is founded on extensive experimentation on dogs, and has been used twice on man. The treatment of carcinoma of the rectum, except that near the anus, has recently undergone a complete change. The abdominal route is eagerly accepted as more satisfactory and safer than the resection of the coccyx and a portion of the sacrum to reach it from below.

More conservative efforts are being put forth in young women, in the surgery of the uterus, tubes and ovaries. Myomectomies instead of hysterectomies; bisection of ovaries and removal of the pathological portion, instead of oophorectomies; and salpingostomy and hystero-salpingostomy instead of salpingectomy, are praiseworthy and sufficient.

The radical treatment of cancer of the uterus through the abdomen, with the removal of the lymphatic glands, is, as it should be, gaining favor. Adbominal and pelvic surgery has been greatly facilitated and mortality lowered by the introduction of raising the pelvis high above the rest of the body, thus enabling the operator to see what he was doing. Intravenous and hypodermic introduction of normal salt solution at the temperature of 115° to 120° F. has saved many a life.

While the surgery of to-day is marvelously in advance of what it was even ten years ago, we must not delude ourselves that there is nothing more to be discovered, invented or improved upon. The teaching of surgery must be revolutionized. The manual training of the medical man has been and is woefully neglected. Practical surgery on the cadaver does not teach a student how to seize and tie an artery, set a fracture, sew a wounded bowel, etc. All this should, in justice to suffering humanity, at once become a part of the curriculum of studies.

Judging from the signs of the times, the surgery of the future will have a more limited sphere than at present. The discovery of a cure for only two monster human destroyers—cancer and tuberculosis—now contributing largely to keep surgeons busy, would greatly lessen the number of operations. We shall hail the day when laboratory workers will find something that will cool off all forms of inflammation in their incipient stages. It may not be a Utopian dream that in the near future we can buy antihæmorrhagins, furnish an antidote to any kind of ptomain before blood destruction and death has come, secure anti-iso and anti-hetero-nephrolysins for interstitial nephritis, and furnish a serum that will shield us from the "horror autotoxicus" or self-poisoning. It has been recently said by one of America's most profound pathologists that "looking at it broadly, the corner stone of modern pathology is toxicology."

"Give us but knowledge, though by slow degrees,
And blend our toil with moments bright as these,
Let Friendship's accents cheer our doubtful way,
And Love's pure planet lend its guiding ray—
Our tardy Art shall wear an angel's wings
And life shall lengthen with the joy it brings!"

In conclusion let me thank you for the patient hearing you have given me.

10 Drexel Sq. Chicago, Ill.

THE LYMPH CIRCULATION IN MODERN MEDICINE.*

By H. A. McCALLUM, M.D., M.R.C.P., LONDON,
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OWING to the illness of Dr. James Stewart, the address in Medicine was pressed upon me by your President and Programme Committee. In reluctantly accepting the honor, I recognized not only the short interval for preparation, but my inability to give such a popular address as the occasion calls for. Relying on your charity to-day, I accepted the investment of this office, not as an honor, but as a duty.

On account of the time left, I must of necessity select a subject with which I have already been familiar. In announcing it as "The Lymph Circulation in Modern Medicine," one feels that we are treading upon a new continent of thought. It is a subject that is in intimate relation with every branch of medicine and surgery. The unsolved problems of physiology, pathology and therapeutics must find their final solution here.

The final contributions in these three realms must be cytological, viz., by painstaking study of the cellular elements. As cells, of their own vital activity, feed and oxidize themselves from the adjacent lymph stream, it must be basic to every problem in medicine how lymph is kept nutritious, and how it rids itself of its waste products. The tissue juice, or lymph, is not only the food of cells, but their sewerage system as well.

Two hundred and fifty years ago, Rudheck discovered the general lymphatics, and gave the first conception of the irrigation theory of tissue nutrition. Hunter believed in the theory of tissue nutrition; Johannes Müller ascribed lymph to the vital activities of the living cells of the body —Elements of Physiology, Baly's trans. Vol. 1, P. 248.

In 1850, Ludwig propounded the theory, which bears his name, that lymph was renewed by filtration and osmosis. Twelve years ago, R. Heidenhain startled the physiological world with experimental evidence, which he claimed was fatal to Ludwig's theory. He experimented with certain substances, which altered in quantity or quality the lymph coming from the thoracic duct. These he called lymphagogues. A great deal of physiological work has been done in the last twelve years in this department, and a considerable number of physiological authorities have fallen away from Ludwig's school, although not fully accepting Heidenhain's theory of endothelial secretion from the capillary wall. The champions of Ludwig have been put to their wits' end in squaring the laboratory evidence with filtration, osmosis, and diffusion.

*The Address in Medicine at the Canadian Medical Association, August 25 to 28.

Before touching upon the contested theories, let us have a glance at the modern anatomy of the lymphatic system. Budge—Arch. of Anat. and Phys. anat. abthg. 1880 and 1887—thought there were two lymphatic systems. One of these disappeared in development. Ranvier, W. G. McCallum, Sala and Florence R. Sabine have separately arrived at the conclusion that the lymphatic system is a modification of the circulatory system, that is grown by budding backward from the subclavian vein, and gradually invades the tissues and organs, that these buds are closed or blind at their terminals, and have no physical connection with tissue spaces. Ranvier looked upon the lymphatic system as a great gland, the blind, protruding capillaries, as the secretory parts, while the ducts were the excretory canals. These lymphatic capillaries are lined by endothelial tissue. The termination of the lymphatic tissue, as the lacteal of the intestinal villus, is a fair sample of its method of termination in other tissues. There are tissues, like cartilage and the cornea, which are never invaded by lymphatic capillaries. The lymphatic glands seem to be an afterthought in development, as they are absent till we reach birds and mammals.

These anatomical and embryological studies bring us face to face with this: that we have included as one system the tissue juices and the lymphatics, when in reality they are separate. The tissue spaces and their juices are not part of the lymphatic system. The fact that we have been considering two fluid systems as one demands strong confirmatory testimony of an evolutional, pathological, and clinical character to be weighed with laboratory evidence in reaching a working hypothesis on this circulation.

The amount of lymph in the human body is difficult of estimation. Waller—*Human Physiology*, Edition 1893, p. 116—approximately estimated it to equal three or four times that of the blood. This estimate is probably too high, but the quantity of this fluid shows its marvelous importance. Florence R. Sabine, when suggesting the function of the true lymphatic system to be a system of absorbents, gives evidence obtained from a "specimen of twins prematurely born, one of which was normal, while the other was so œdematous that it was simply a round ball." Examination of the œdematous one showed no trace of a thoracic duct, nor lymph glands.—*American Journal of Anatomy*, May 26, 1902.

The tissue juice circulation I shall call the lymph, and the other the lymphatic. As the lymphatic is one of the forces in the lymph circulation, there will be no attempt made here to divorce them. Are we in possession of sufficient data to indicate the method by which the lymph passes over from the blood stream to the lymph circulation as a secretion

a filtration, or a product extracted or sucked out by the vital activity of the tissues themselves ?

If the field of enquiry be extended to embrace facts from evolutional, embryological, physiological, pathological and clinical sources, the answer to the first question can reasonably be affirmed. The second question points to lymph as an independent circulation, and its forces are the vital activity of the tissues. It would follow that the lymph itself was an extraction product from the blood stream The extraction process may have some of the characters of secretion and filtration. It is not to be denied that the physical laws of the liquid act in the body, but their scope in the lymph circulation is overshadowed by the selective action arising out of the vital activities of the tissues.

The thing that most concerns us is that the lymph circulation is an independent one.

Lymph will flow from the thoracic duct in some cases as long as four hours after the death of the animal. Ludwig long ago discovered that ligation of this duct was followed by rupture of it behind the point of ligature.

Harly's experiments—*British Med. Journal*, Aug 20, 1892—on the production of Jaundice in dogs, showed that when he ligated the hepatic lymph ducts and the biliary ducts simultaneously, that there was great danger of rupture of one of them These experiments were conducted to show that bile gained entrance alone by way of lymphatic circulation, but they also show an unsuspected power behind this primeval circulation.

There is evidently as many calculatory forces as there are tissues, each tissue possessing a method of its own in the selection of lymph. Easily understood examples of this may be seen in the vitreous humor of the eye, cartilage, bone, voluntary and involuntary muscles, epidermis, and hair. Their peculiarities will be discussed again at some length.

In addition to the ability of this circulation to continue for hours after cardio-vascular death and independently of the latter forces, we see it to be the sole circulation in the vegetable kingdom, and the mighty trees of the forest are the evidence of its powers. It is the sole circulation in the lowest forms of animal life, and executes oxidation, excretion, secretion, vital movement reproduction and repair. It is the sole circulation in the early weeks of embryonic life of all individuals, promoting purposeful growth, building and scaffolding and laying down the framework of our human system.

Without question, the lymph circulation existed long before the cardio-vascular, and was in possession of independent forces and func-

tions. Can it be possible that this ancient circulation, which called into being the cardio-vascular system, would lose in the new comer its own identity and independence? Or was the cardio-vascular system secured for greater importation and exportation facilities?

The studies of Dr. A. B. Macallum on the inorganic composition of certain sea forms and sea water show that the formers' degrees of salinity can only be explained on the ground that the cells lining their gastro-vascular channels and the covering cells have a vital selective action. Speaking of the inorganic composition of blood plasma and its strong resemblance to ancient sea water the author says: "These can hardly be mere coincidences, and they seem to indicate that the proportion in plasma are an ancestral feature derived from a form which had its habitat in the ocean in the earlier geological periods when the ocean water was very much less rich in salts of magnesia than it is now Just as in the medusæ of to-day, the gastro-vascular fluid is but sea water, so in the ancient oceanic prototypes of the vertebrates and of invertebrates which are provided with a distinct circulatory system, the fluid in their vascular channels which communicated with the exterior was probably but modified sea water as regards its inorganic constituents, and in the long period of time during which the forms were exposed to the conditions of such an environment a physiological relation between the tissues and the salts in their vascular fluids in the proportions occuring in their environment, became so fixed and established that it was of necessity transmitted to the descendant forms living in different habitats, whether on land or in fresh water." *Journal Physics*, vol. xxix, No. 3, page 234.

By the blood stream, oxygen and nutrition are carried to the tissues and waste products are carried away. If we knew how oxygen was utilized by the tissues, it would give us "scientific anticipation" of the modus operandi of the other functions of the lymph circulation.

The history of the physiological teaching of oxidation is interesting. The ancient belief that the arteries contained air and carried it to the tissues was abandoned after Harvey, and in its place came the teaching that the lungs were two furnaces burning up the waste products carried to them. Then followed the teaching that the blood oxidized the tissues through the walls of the systemic capillaries. This was replaced by the teaching that blood oxidized the perivascular lymph, and the tissues became oxidized by contact. The present day teaching is that cells oxidize themselves by their own inherent vital activity. By their own instinct they seize the oxygen in the lymph and cast back their products of metabolism, viz, products of secretion and excretion.

Internal secretion and excretion are cast from the lymph stream to the blood stream simultaneously. The giving up of lymph by the way of the thoracic duct is a very remote and fractional part of the interchange—Tscherwkow *Arch. F.D. Ges. Physiol.* 1895, Bd. Ch. 12 S. 391, Lazarus Barlow and Starling, *Journal Physio.* Vol. 16. The interchange is almost entirely effective between the lymph spaces and blood capillaries. It has been found that when an animal is being bled the later portions of blood are more diluted than the first, and this is the case whether the thoracic duct is lighted or not.

Experimentally, we know that from the hind limbs of an animal at rest no lymph flows. By kneading the muscles, a free flow can be induced. Passive or active movements of the limbs bring about a free flow. It is known that in the quiescent state the lymph, coming from the thoracic duct, is from the viscera.

Glandular or muscular activity takes front rank as increasers of lymph flow.

In harmony with the post mortem flow of lymph, examination of the web of a frog's foot after the heart has been cut away or the vessels clamped, movement in the blood capillaries will continue from five to fifteen minutes thereafter; when all movement has ceased, it will return if some irritant be applied to the web.

It seems that the lymph circulation, being more ancientand stable, continues after cardio-vascular death. A student whose mental make up enables him to see the other side of things, said in my quiz class that "Blood was simply mixed lymph with peculiar cells floating in it." Whatever we find in the serum we know has been cast there by the lymph.

A study of the blood serum is practically a study of general lymph. All the modern studies of serum will apply to the lymph. The causes of vital movement must be analyzed before we gain a clear view of lymph circulation. Evolutionally, this principle must be true, that all protoplasm not undergoing vital movement in offensive or non-nutritive media must have been lost in the evolutionary process. This must be the basic explanation of all vital movement. By vital movement is meant not only contraction, but intervening relaxations.

The contraction of voluntary muscle is a powerful expulsion force on lymph within its sheath. Now, before a voluntary muscle contracts, there is a carbohydrate explosion giving rise to carbonic acid, sarcolactic acid etc. This takes place in the latent period before the visible contraction, and changes the reaction of the muscle from alkaline to an acid reaction. The contraction which follows on this expels large

quantities of lymph. Here, clearly, vital movement was inaugurated by offensive lymph, and the purpose was to expel it.

Now, the great stimulus to involuntary muscle-movement is venous blood, namely, offensive lymph—is the stimulus. The meaning of vital movements, *Canadian Practitioner*, October, 1902.

It is interesting to note the wide distribution of involuntary muscle. We find it composing largely the walls of hollow viscera. It is fully distributed in the stroma and capsules of glands and organs. And I would venture to say that more than one-half of the involuntary muscle of the human body would be found to be in the immense area of the skin. Its slow rhythmic contractions with intervening relaxation suggest a tardily beating heart. The attachment of the arrector pili muscle to the root sheath of the hair in such a way as to pump nutritive lymph into the hair shaft and the action of the ciliary muscle on the canal of Schlemm are two examples of this involuntary muscle acting as lymph pumps without doing so directly.

This variety of muscle has a tendency to have associated with it in this action white fibrous and yellow elastic tissue. In the lungs, the lymph circulation is almost wholly effected by voluntary muscle, during inspiration producing a vacuum in the chest cavity which favors lymph entrance into the lymph spaces and reservoirs. The expiratory effort, effected in natural breathing almost entirely by the elastic recoil, would act as a pump to expel.

I have said enough to show how varied are the ways in which the forces act. Vital movement is best seen in muscular tissue, but is not peculiar to it, as doubtless all tissue is capable of some degree of vital movement. Vital movement does not always take away from the form of contraction and dilute offending lymph.

The lymphatic glands, spleen, uterus, intestines, ureter and bladder undergo variations in volume, rhythmically due to their involuntary muscle, and this will continue even when removed from the body. The rhythmic flushings of transparent parts—(albinorabbit's ear or bat's wing) and periodic variations in volume of one's arm (when in a plethysmograph) are explained as arising from this smooth muscle tissue. Traube-Herring blood pressure, curves seen in states of asphyxia are similarly induced. We have the same rhythmic contraction of the walls of the lymphatic duct, and the intestinal lacteal is emptied by this tissue.

Offensive lymph inaugurate the respiratory and cardiac movements. Note how both will speed in state of asphyxia. A piece of steel embedded in the cornea has long taught us that this nonvascular structure

can vascularize itself. This can only be explained on the theory that the tissues effected this by suction Inflammation under such a view of lymph circulation would be simply excessive selection or extraction of fluid cells from the blood. In states of asphyxia, the lymph coming from the thoracic duct is often bloody, an effect to be expected if the tissues secured their own lymph.

Now, what does one mean by offensive lymph ? Lymph may be offensive in being devoid of oxygen and nutrition, or containing metabolic and chemical products. High or low temperature would be offensive (to warm blooded animals), or high or low pressure, vibrations and certain electrical variations. It is one's right to question why, as often as how ? Adaptation of pathological process is an axiom of pathology, but there are countless examples in physiology. The adjustment of the iris to varying degrees of light is one of these. Here we see involuntary muscle adapted to expel offensive lymph. Heidenhain gave two divisions of lamphagogues, those increasing the water and those increasing the solids. I need not burden you here with details, except to say that certain salts like magnesium sulphate are powerful lymphagogues. This agent acts first as a lymphagogue, and secondly as a purgative. It is well that internal excretion should precede external excretion.

The lymph passing over to the blood stream contains defensive fluids, as well as waste products. Hence purging within certain limits may be a form of serum therapeutics (see excretion in the treatment of acute infections, *Philadelphia Med. Journal*, Jan. 13, 1900.)

The action of the secretions of the ductless glands have not been brought into this discussion, but they vitally act on the tissues, and, consequently, on this circulation. The two most powerful agents in interchange of lymph are the muscular systems. The voluntary expel lymph from their own body, and their sheaths, tendons and attachments, and place, as far as the limbs are concerned, this circulation almost wholly under control of the will. The influence of the brain over the movements of the involuntary muscles is less than over the voluntary. The emotions can play upon this circulation almost past belief in some individuals.

To consider the skin as a system of external drains is to consider it not an important organ. Its enormous amount of involuntary muscular tissue, the ability to corrugate itself to resemble "goose skin" in states of chill and fever, mxœdema and dermographia from strong or weak strokes to its surface, and the experimental evidence that stimulation of the pilomotor nerves, causes contraction in the skin, especially over the genital region (Langley and Anderson, *Journal Physio.* Vol. 20, ph. 85)

will justify one in speaking of the skin as a great lymph heart. The skin's elasticity alone would make it that. One can scarcely separate the lymph heart action of the skin from some of its several other functions, it being a sensory surface upon which are inaugurated impulses of pressure, temperature, pain, etc., which in turn set up reflexes of various kinds that keep the body adapted to its environments. If the skin be considered the external body world, it arouses, defends, and stimulates the inner mechanism more than can easily be conceived.

In order that I may not be charged with running thoughts till they are out of breath, I may bring forth Head's conclusions (*Brain, London* 1893, Vol. 16, p. 129) that each viscus had a definite segment of skin that would show sympathetic pain when the former was irritated. He assumed that impulses can reflex the other way, namely, that irritation of the skin over those areas would have trophic influences on the corresponding viscus. The so-called "Lung reflex" described by Abrams, *New York Medical Journal*, Jan. 13th, 1900, shows that this is true. By irritating the skin over the lung by means of cold, friction, or farradic currents, dilatation of the lung ensues and an increase of the blood in that lung follows.

This is evident by obliteration of apex beat, cardiac and splenic dullness, along with the appearance of hyperresonance or percussion, and a more definite lung outlining under x-rays.

Whether intraspinal or intraganglionic, excitement inside is communicated to the skin outside, and vice versa. Beneath the skin both superficially and deep are great laboratories that can be aroused to feverish activity by a stimulus applied upon the cutaneous surface.

By contraction of this great lymph heart, interchange of lymph and blood is effected, and the lymph passing over is a mixture of excretion and secretion, waste products and proteids, to defend the whole organism. It appears that the outer world excitement is accompanied by increased activity inside, else we had never been in possession of a heat regulating mechanism.

You well know the nervous mother who will make a hot-house plant of her child. There comes a day of exposure, and the child has "caught cold"—has bronchitis, pneumonia, nephritis or gastro-intestinal catarrh. The modus operandi of "catching cold" is this: The lymph stagnates for want of proper skin stimulus which would be cold—the application of cold to the skin produces a powerful interchange, driving the excreting organs to over work.

Over stimulation from clinical evidence we know can end in inflammation.

The child who has daily exposures has his waste products sent into the blood circulation in dosage. The daily exposure is itself a tissue arouser and tonic.

No biological worker now-a-days denies organic evolution but for the reason that the "How" entirely dominates the "Why?" it has not been pushed into the explanations of purposeful phenomena.

From the inception there were certain forces that act upon organic growth and will continue to act for all time.

Shall we ever know the full meaning of "Sunlight" giving us light and darkness; air with its varying shades of dissipation of heat from objects; and the medium of vibrations; the changing seasons with their variations of heat and cold; the cold and warm rains cleansing the air, plants and animals, and furnishing fluid for internal use of all? What a cluster of blessings. Try them on a human organism, and everyone plays on its cutaneous surface. Without the sunlight we had no eye-sight—without vibration in the air we had no hearing—without the whole group we had not our cutaneous sensations.

In the open air, sunlight, and forced feeding treatment of phthisis, we go back to primal forces of organic evolution and we have staggered upon them, not by intelligent grasp, but by accident. Have we conceived the full range of possibility of the skin as an inaugurator of impulses, and movements, and the uses of these in maintaining normal health and in treating disease? We use in typhoid fever the cold bath and secure rhythmic discharge in dosage of the harmful toxine and of defensive proteids into the blood circulation. In typhoid fever the height of the temperature is merely the indication, the reduction merely the accident of treatment. We use massage to remove stagnant lymph in conditions of neurasthenia, melancholia, Glenard's disease and other forms of mal-nutrition.

The relation of the modern treatment of tuberculosis to the lymph system is easily indicated. The forced feeding enables the cells' inherent activity to obtain the material for the formation of the defensive proteids. The sunlight and fresh air stimulates the skin not hourly, but almost continuously to activity, that defensive proteids may constantly flow into the blood stream to enable the long drawn out battle to be won on the side of life. Stagnation of lymph can occur both in warmth and cold. This is overcome in typhoid tubbing by friction.

If one concede so much to the skin as an inauguration of defensive processes, what shall we concede to the great master tissue, the central nervous system in this regard! The influence of mind on the body has not yet attained its full recognition in medicine. The invigorating effect

of sane courage in arousing the whole bodily forces is a medical axiom from the beginning of time.

> "Know then, whatever cheerful and serene
> Supports the mind, supports the body too.
> Hence the most vital movement mortals feel
> Is hope—the balm and life blood of the soul."

The splendid practice of training the sick mind is far too little used. The neurotic should be taught to cease complaining, to minimize his actual objective symptoms and to train his body and mind to gradually increasing periods of alertness as well as periods of absolute repose.

Had this been more generally done by the profession there had not arisen in the land a cult who appeal to the mystical to heal disease.

I shall not stay to discuss the relation exercise, inflammation, hypertrophy, atrophy and repair bear to this hypothesis.

You will doubtless see that our attention must be fixed on cells, and the best method of securing their fitness to fight morbid changes. Chemistry and physics give many phenomena a meaning, adaptive to our understanding; yet there are innate properties in cells, put there by evolutionary factors, that must be baffling to all science.

As one understands more of the whole biology of the human body, he turns less to drugs for curative agencies. The body must be considered as a community of cells, and as a united state possessed of a wonderful ability to organize its land and sea forces. All therapy must be measured by its effect on the organization of these forces. In treatment, the great object is to make the human body into the very best fighting machine against the invading enemy—primary or terminal infections. More terrible to a waiting camp than the enemy's weapons are water and food famine and stagnant sewage. Mal-nutrition and stagnant lymph mean to the human body what famine, polluted sewage and destroyed ammunition mean to a regular army—capitulation without terms.

In conclusion, I trust your curiosity has been aroused, for my attempt has been merely to lead you to a hill-top in this new continent of thought, and to point out the complex landscape and the open roads. It may be true the valleys are hidden with mist, and the mountains with clouds and the soil is yet to be enriched by the growth and decomposition of thousands of ideas, but, nevertheless, this is the land that will yield us fruit, the eternal biological verities.

EYESTRAIN AND THE LITERARY LIFE.*

BY GEORGE M. GOULD, M.D.,
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BY means of the glimpses I could obtain from biographic and autobiographic writings, I have made a study of the disease of twelve patients who lived in the last century. These were DeQuincey, Carlyle, Mrs. Carlyle, Darwin, Huxley, Browning, Wagner, Parkman, Whittier, Spencer, Margaret Fuller Ossoli, and Nietzsche. If we fuse the data thus gained into a composite clinical photograph the lessons become more clear and striking. The diseases, or rather the symptoms of the one disease, common to all were headache, insomnia, "biliousness," sick headache, "nervousness," indescribable suffering, inability to do literary work without producing these symptoms, and relief of the symptoms whenever, even for a day or a few hours, literary work was stopped, and entire cessation of the characteristic symptoms at about 60 years of age. Here we have a definite clinical picture that differentiates the fundamental pathologic condition from that of any other disease.

The symptoms were briefly, and without quotation marks, as follows:

Of DeQuincey. Pain in the head beginning at 14; violent twitchings of the stomach during sleep, at 17; neuralgic affection at 18 or 19; nervous horror; irritation of the stomach; gastralgia; illness, dejectedness, biliousness, wretchedness, dizziness, a nervous malady of a very peculiar character, insomnia. The digestional difficulty was predominant

Of Carlyle. Dyspepsia; torture as of a rat gnawing at the pit of the stomach; bad health; nervous disorders; insomnia; biliousness; melancholy; cardiac symptoms. The dyspepsia was the leading complaint.

Of Mrs. Carlyle. Sick headache, nervous sufferings, insomnia. Hers was a case of life-long sick headache.

Of Darwin. Dispiritment; pain and palpitation about the heart; sea sickness; illness; inability to do literary work; disordered stomach; prostration of strength; sick headache; vomiting; insomnia; headache, great weakness. The digestive organs were those principally affected.

Of Huxley. Hypochondriacal dyspepsia; cardiac symptoms; unaccountable prostration; liver; headache; flatulent dyspepsia; mental depression. A case again of almost typical sick headache.

Of Browning. Headache; confused cerebral symptoms; depression; dizziness; deranged liver; nervous excitability. This is a case of almost simple headache.

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*Read before the Canadian Medical Association, August 25, 1903.

Of Wagner. Feeble stomach; sick headache; extreme depression; cardiac symptoms; insomnia; shattered nerves; intense irritability; violent headache. A martyr to sick headache.

Of Parkman. Dyspepsia; stirred-up head; photophobia; the greatest inability to use the eyes in literary work; insomnia; insanity feared on the part of friends and physicians. Mental, ocular, and cerebral symptoms dominant.

Of Whittier. Delicate health; great weakness; depression; palpitation of the heart; influenza; headache; weariness; rheumatism; cerebral symptoms; neuralgia; insomnia. Headache, physical weakness and sensitiveness were continuous from early manhood to the completion of presbyopia.

Of Herbert Spencer. Insomnia; inability to use the eyes except for short periods; queer feelings in the head. Insomnia was the chief complaint, others plainly being avoided by astute precautions.

Of Margaret Fuller. Headache, vertigo, nervous exhaustion, martyrdom to ill-health, insomnia, pain in the head.

Of Nietzsche. An intensification of almost all the preceding symptoms, especially the ocular and cerebralones, with final ending in insanity.

The Strange Mystery of the Disease of the Twelve must strike one even with a hasty glance over their "biographic clinics." This lack of cause or reason for their sufferings struck each one, and pages of excerpts might be gathered showing their wonder. An unseen and malignant enemy or fatality seemed seated above them or at the very heart of their being, implacable and inexplainable. To their physicians they turned with beseeching question, and imploring aid. Some spent a great part of their lives in going from one doctor to another, or in dipping into quackery, in traveling for hoped relief anywhere, by "change of climate," "change of scene," etc. Most of them tormented themselves all their lives in dieting, and two gave much of their life to the hydropathic delusion. In every case the one fact stands out clearly, and it could be verified by any number of quotations, that their miseries were consequent directly and quickly upon use of their eyes in writing or reading, and yet not one of them, while repeatedly chronicling the fact with their own pens, ever caught a hint of the causal nexus.* That Mrs. Carlyle should have read in bed until the early morning hours and then have taken morphine to stifle the direct results of suffering; that

*Since the Wagner paper was published, and since this article was written, Mr. Ellis the biographer of Wagner, in a letter just received, tells me he has found an exception to this statement, showing a passing recognition on Wagner's part of the relation between eyes and dyspepsia. In a letter to F. Heine, Wagner writes, April 30, 1853, "Kurire deinen Bauch um der Augen Willen,"—"Cure your belly for the sake of your eyes."

Nietzsche should have taken two big trunks full of books with him when, broken down by eye-strain, he resigned his professorship; that each one told of his torture when he read or wrote, and not have seen that it was the reading or writing caused it,—all this is amazing. But it is the daily story in the oculist's office. That lay scientists and professional observers, as they might be termed, should have been incapable of perceiving the fact is as strange as it is pathetic. That their physicians should not have done so is as strange as it was inexcusable. The reason for the blunder of both patient and doctor is to be sought in deficient closeness and accuracy of observation, and consisted in a threefold error.

Three Inaccuracies of the Patients and of their Physicians. The first was to ascribe the disease to the organ in which the symptoms appeared or seemed to be most manifest. This folly still dominates most treatment to-day and underlies much error in our pathology. Despite a thousand proofs of the fallacy, it seems ineradicable. We acknowledge in words that the organism is a unit with absolutely interdependent parts, and yet we go on practically oblivious of the truth of the old fable of the belly and its members. When we vividly realize that distressing symptoms in an organ may have their origin in another and even in distant organs, we shall make an instant and tremendous advance in practical therapeutics. "Doctor, do you think it is my nerves?" is the primitive pathology of the simple, and is the exact counterpart of that which always traces headache to brain disease only, or digestive troubles solely to diseases of the stomach.

The second faulty observation consisted in thinking that intellectual labor *per se*, or an over-amount of it, caused the symptoms. Patients and scientists forgot that in the great majority of intellectual people it was and is not so. Humboldt, for instance, is said to have worked with his eyes about 20 hours a day for some 80 years. In the twelve patients mentioned it was not the working of the intellect, or the amount of it, that gave pain, but simply an accident of that labor, a certain mechanical, or, shortly, optical part of it, that produced the symptoms.

The third observational mistake occurred in thinking that the "change of scene" everlastingly advised, or "change of climate," or the walking, riding, visiting, etc., of itself, caused the relief. Again, this relief was merely an accident of the out-door life. Thousands of others did not require the change, and the relief of the sufferers was due to nonuse of the eyes at near-range work; if the cause was put in action, the symptoms recurred whenever and wherever the patient was. "Black care sits behind us on the crupper."

The Disease was Functional. De Quincey's physicians said he had "gastrodynia," a name utterly without pathologic meaning to the physicians of the past, or indeed of the present. All the patients had more or less severe gastric symptoms; in some it was the chief, called by various names, such as nausea, vomiting, biliousness, dyspepsia, liver, etc. The modern gastrologist knows nothing of these diseases except as the results of errors of diet, or of organic disease. Some modern surgeons would even go so far as to trace them all to gastric ulcer, for which operation is the only cure. In 1903 a grave medical journal has said editorially that even obscure gastric symptoms demand gastrotomy and excision of the ulcers. The answer to that, of course, is, first, what caused the ulcers? Secondly, it is surgical monomania. Such a modern surgeon would surely have gastrotomized our twelve patients. That affliction at least, was spared them! That the disease of all these patients was functional is demonstrated by the fact that they lived to the average or more of three score years and ten, and that it disappeared at the beginning of old age, precisely and illogically when the general vital powers were lessening toward death * The older each lived after this the freer he became from the peculiar kind of suffering which had made middle life so wretched. In the year 1902 a physician most well-informed,—at least, expert in other matters—traces to climacteric melancholia, plus heredity, plus neuroticism, the tragedy of one of these twelve, and adds that we call diseases functional because we cannot observe the minute anatomic or organic changes which underlie all such conditions. This seems to me a more foolish pathology than that which said simply, "gastrodynia," and let it go at that. Are there organic tissue changes in sea-sickness? That is a very real disease while it lasts. Why does it last so short a time? What caused the changes?

The Variation of the Symptoms. It is a truism of medicine that there is no typical case, even of organic diseases. The "soil" is of as much influence in producing symptoms as the "seed." And of functional disease this is peculiarly true. The symptoms of eyestrain are amazingly complex and differ in some respects with every patient. More than any other morbid cause, its effects are multitudinous. When the role of vision and the functional relations of the eye with the organism, and with life, are understood, the reason for the infinite variety of symptoms is seen. The two things that bind all to unity are the certainty of a common cause, and the equal infallibility of the therapeutic test. If use of the eyes produces any of these results, it is almost surely the cause; if disuse of the eyes relieves, it is doubly sure; if, without disuse

* With the exception, of course, of Nietsche and Margaret Fuller Ossoli.

of the eyes, proper glasses does the same, the demonstration is beyond all question. In every one of the eleven cases, disuse of the ametropic eyes did give temporary relief; the paralyzed accommodation at about 60 did the same thing permanently, and added great ability to the power of ocular use; these symptoms in thousands of American patients have been instantly extinguished by lenses properly correcting the ametropia. The demonstration is perfect.

The Result in Lost Time and Opportunity. If De Quincey's opium-eating, as I have no doubt, was due to his eyestrain, then a large part of his life was certainly wasted from that cause. Surely three-fourths of Carlyle's working time and ability were spent in horseback riding, walking, and in recovering from the exhaustion of writing. He produced during his working life about one-half page a day. Much of Mrs. Carlyle's life was spent in 30 or 60 hour continuous vomiting, and in suffering, and if this could have been avoided, the time, and much good white paper, spoiled by critics, biographers, concerning her and her husband, would have added greatly to the national income—especially in the saving of paper! Darwin was able to read or write only about two hours a day, and his literary product was less than that of Carlyle. The rest of his waking hours, those he did not waste fighting insomnia, were spent walking like a dumb animal about his "sandwalk" or more foolishly enduring the brutal water-cure. Fortunate it is that if he could not read and write, he could think and observe. The output of great minds is to be measured qualitatively, of course, not quantitatively, but ours is the grievous loss, nevertheless.

Just at the climax of Huxley's sufferings, at the zenith of his powers and at the moment presbyopia would probably have given him relief, he was compelled to resign and take to the moors. For 45 years his life and power of work had been greatly crippled by his sick headache. What a tragedy! What a loss for science! Browning avoided suffering, by avoiding eye-work, by going to Italy, by living in the open air, and when he could not do this, in living, as his biographer says, "upon the surface," and by "countless social engagements."

Wagner came near committing suicide many times owing to his tortures. He also squandered a large part of his life in hydropathy, diet, and walking, until relief came all at once from three apparently supernatural sources.

Parkman himself estimated that 75 per cent of his life had been wasted by his inability to use his eyes. He avoided the agonies of others by simple renunciation. Not being ingenious Yankees, they never had a "grid-iron" nor recognized the need of it. Parkman's output for 14 years was

about 6 lines a day, and his life product was but little greater. The hideous waste of his superb powers and valuable time was, I think, fully 90 per cent.

All the newspapers which Whittier edited until he had to quit all literary work except versemaking, had to be discontinued because of his bad health. He was forced to renounce his splendid ability as statesman and reformer, and for the rest of his life retire to the farm to nurse his health and write a little poetry.

Spencer avoided suffering by cunning precautions, in nonuse of his eyes; more deftly still he hid his lack of scholarship (German, metaphysics, etc.), which was denied him because he could not study.

The pathos of Margaret Fuller's life came from the fact that her little work, her poverty, and her death itself were due to her eyestrain.

The havoc wrought by eyestrain in a genius the natural peer of any, the superior of most, in the German professor at 24,—the incomparable Nietzsche—is so pitiful and awful that one can scarcely speak of it with restraint.

The Result in Suffering is incalculable and horrible. There are and will be biographies of these people which will not allude to it, and physicians and medical editors have been known who smile ironically at the "exaggeration" of "vivid imaginations;" there are numberless asses who think they are excused from all sympathy with a Carlyle or a Nietzsche, and have no need of a thousandth of their nobility of character, because they, the ignoble long-eared, disbelieve in something the great men have said or taught. "Let us be contemptible because their philosophies are so,"—one seems to overhear. The misery of the pain of one attack of the nausea of sick headache has not been equaled except in some medieval or oriental torture chamber. When for some profound reason the dominant and oldest instinct of the organism, that for food and nutrition, is violently reversed, it should be plain even to the stupidest lay mind that the deepest wrong exists and that the very springs of life are being drained. Add to this another symptom almost equally terrible, intense pain in the brain, the organ controlling both character and life-processes, and what disease could be more desperate? How many of our patients had sick headache it is impossible to tell, owing to the disinclination especially in writing and biographies to speak of vomiting. Probably most of them did have it more or less. Of Mrs. Carlyle, Huxley, Wagner, and Darwin, it was almost constant when the eyes were used in near-work. Whittier, Nietzsche, De Quincey, and Carlyle suffered from it also. Spencer, Browning, and Parkman escaped, undoubtedly by means of not driving the eyes to the degree of

use that would produce it. But headache alone without the "30 or 60 hour" retching is bad enough. Then it must be remembered that for geniuses like these upon whom was laid the awful duty of world regeneration and enlightenment, the mental anguish from knowing their life-work frustrated, was greater than any simply physical suffering could be. This comes out with tragical emphasis in a hundred quotations that I must omit. Until insanity came to his rescue, the mental and physical agony endured by Nietzsche is one of the most terrible spectacles one can imagine.

Insomnia. There were but two of the twelve patients who were not extreme sufferers from inability to sleep. Of some it seemed the chief complaint, and the bitterness and reiteration of the trouble by most was so great as to make this symptom of exceptional interest to physicians and physiologists and to demand a scientific explanation. For 30 or 40 years, several, one would judge, could get on the average but two or three hours of sleep a day; a full night of sleep was hardly ever or never secured, and the attempt to rid themselves of noise constituted their greater trials and expenses of practical life and dominated all plans and methods of domestic economy. Oriental cruelties, physiologic laboratories etc., have demonstrated the absolute necessity of sleep, the fatality of enforced weakfulness, and every one knows from personal experience how all health and happiness is dependent upon that strange lapsing of consciousness. There is an unconscious divinity of physiology, one at least whose consciousness is so different from ours that we call it unconscious, though it is more ingenious and purposeful than man's most exalted and scientific vision can ever suspect.

Is it not true that the biologic divinity never sleeps? Is it not simple fact that for 16 hours a day he lends to our consciousness, as temporary engineer in charge, the marvellous machine we call the human body and brain? Is it not as evident that even while we as engineers are in charge, his attention is always present in every bolt and bar, in every organ and every cell? One of his little, but to us as physicians, conspicious functions, we have named *vis medicatrix naturae*, the healing power of nature, the wonderful art of instinctive unconscious repair, the amazing and perfect proof of the very presence of God. Is it not again the oldest of physiologic truths that in highly complex and differentiated organisms like ours, the conditions of repair and healing are intermediated by cerebral and neural control? In other words, our derived or subordinate consciousness works by means of the cerebral mechanism loaned to us by the sleepless chief engineer for two-thirds of the twenty-four hours. Follow the logic one link further and it is seen

that while the locomotive is put in our hands, it cannot be repaired. It must stop running and go into the shop for repairs. It is noteworthy that even if no repairs are needed, an ordinary railway locomtive gets tired and must literally be rested. A simple bar of steel, it seems, needs sleep, rest from continuous strains. More strikingly does the human machine require the lapsing of our engineering control, and so of our consciousness. This, or something like it, is the philosophy of sleep. And now for the application to our subjects; the astigmatic and anisometropic eye can scarcely rest from muscular or innervational strain for a second of the sixteen waking hours. The heart rests every beat; every organ and every muscle rests, because no muscle can be steadily innervated for more than a few minutes without painful effort. The safety of the organism, the "making a living," requires this 16 hour restlessness of the astigmatic eye. Nothing like this denial of this absolute law of physiology exists in any other organ of the body. The eye dare not be injured, and the natural injury to it must be reflexly shunted to the brain or to other organs; in extreme cases of overuse, the fundamental conditions of organismal existence, nourishment and cerebral control, are denied and the organism itself is profoundly hurt or even destroyed. That, or something like it, is the philosophy of eyestrain and of reflex ocular neuroses. Lastly, the injury to the cerebral and neural mechanism and its exhaustion and injury is so great by the sixteen-hour struggle that when at night it is given over to the chief engineer, the repairing is such an active process that there is no rest possible and the human consciousness is aroused, is awakened by the very stir and din of the repairing process. That, or something like it, seems to me the philosophy or rather physiology, of the insomnia of eyestrain.

It may be of interest to note in this connection that eyestrain commanded all of our patients to reverse the proverb as to the value of the "midnight oil" to the student and literary man. The eye and brain, tired and disordered by the day's struggle, cannot work at night, and especially by the poor rushlights and candles of the last century. It cannot do so even with the best poor lights of our time. Only in the early morning hours could these patients find enough resilience of mind and strength of eye to do any original work.

The Digestional Reflex, next to insomnia and headache, was the most pronounced and constant symptom of the twelve patients, and of nearly all, it was the most crippling and dangerous. The roles that biliousness and dyspepsia have played in civilization and are still to play, are indeed far from "play," are as serious a part as those of any, possibly of all infectious diseases combined. That, I know, seems exaggeration at

first sight, but not when one reconsiders the fact that denutrition is the fundamental preparation of the "soil" for the reception of most organic and infectious diseases. It is, indeed, a dangerous thing to "explain" or, rather, to attempt to explain, the mechanism of intimate physiologic and pathogenic processes. Most physiology of this kind is crudity and error, guessing at best. In two thousand years I cannot find that the medical profession knows at all certainly what biliousness and dyspepsia really are, and we are surely further still from knowing their causes, and the mechanisms of the causes. Rough observation, crude clinical facts, are about as far as we have got. One shrinks from too much parading of his own clinical experience, but each day of sixteen years, and many thousands of patients, have convinced me that eyestrain is the almost sole cause of the awful disease of sick headache, that it causes a vast deal of so-called biliousness and of dyspepsias of many kinds, and that correction of eyestrain often relieves these troubles suddenly and as if by magic. I frankly confess that despite all pondering over the fact, and study of the physiologies, I am in doubt as to the mechanism. In a general way and usually the head is an inhibitory organ to the so-called vegetative or unconscious processes of the body, but eyestrain is such a peculiar disturbance of cerebral function that one doubts if it is essentially an exhaustion and depletion, or an excitant and irritation. Certain observers have thought that some types of diarrheal diseases are due to it, but the distinct evidence of the twelve cases studied, and of my own clinical experience, leads me to think it is usually, if not always, inhibitory to the digestional process. The vomiting would argue for this also very strongly. Physiologically both the diarrheal and constipational processes may, I understand, be results of the same initial inhibitional and indigestional cause. Indeed the symptoms of essential excess and deficiency of nerve force, of hypersthenic and asthenic disturbance may be the same apparently, or so similar as to end in confusion. Irritation and exhaustion sometimes seem mere names denoting phases of a single underlying morbidity. Several of our patients and quite a number in private practice, have exhibited palpitation of the heart, lapsed beats, irregular rhythm, etc., as an undoubted result of eyestrain. If stimulation of the pneumogastric nerve, as we are taught, results in increased rapidity of the cardiac beat, it is by no means clear that this inhibitory acceleration will explain the cardiac complications of eyestrain. It is a disturbed rhythm, an irritability, a disordered function rather than an acceleration, with which we have to do. The study of the headaches of eyestrain, the migraines, the localization and almost infinite varieties of them, and of the mental or psychic functions,

also leads us into the mysteries and contradictions of cerebral function and localization of function which are so far beyond the unraveling of science. Choreas, twitchings and tics are proofs of sthenic irritation and disorder, while pareses and even paralyses, sometimes also due to eyestrain, are of course only explainable on the theory of exhaustion and inhibition. But facts, accurately observed, precede philosophies and sufficient unto the day is the evil thereof!

"Irritability" and "Nervousness." The biographies and letters of patients are filled with evidences, expressions, and facts, going to show cerebral and emotional irritability, what, for want of a better word, may be called nervousness. The passion for activity, the desire for change and movement, are often uncontrollable and the words used to express it are painfully intense. It rises to morbid extremes just in proportion to the amount of eye-work demanded or completed. In every one it took the form of physical exercise, usually of walking. Carlyle walked numberless miles and rode one horse some 20,000 miles. De Quincey walked around his "measured circuit" 1,000 miles in 90 days; during his life he averaged 15 or 20 miles a day in walking, often far in the night. Darwin trudged about his "sandwalk" all the time he was not hydropathizing. Huxley's only relief was 10 or 15 miles a day. Browning, Parkman, Wagner, Nietzsche, even Whittier, were forced to the same plan of life, each in his special way. Even Mrs. Carlyle says she walked from 6 to 10 miles a day for 10 years. Parkman's early fiery athleticism is positively morbid in its intensity; in his youth De Quincey ran to vagrancy for years, and Darwin's devotion to sports in his college days was the despair of his father; and so on. There can be no doubt that this commanding impulse made Darwin take the *Beagle* voyage, made Huxley join the *Rattlesnake* expedition, and turned both from other studies and living to natural history and science. When Parkman was denied the power of reading and writing, and when he could not live among the wilds or go into the army, he devoted himself to horticulture for 14 years (by means of low stools and rolling chairs), and when he could not do this he rowed or practiced sedentary gymnastics. Spencer avoided danger by recreation, and because Nietzsche denied the need of walking and action so much, forcing his eyes to a relentless fury of study, he positively went insane. Wagner felt he would literally go mad unless he should relieve himself by exercise, and he deeply cursed the "damnable organ of sitting still." That they lived to ripe old age, that their health improved as they grew older, that when very old most of them could outwalk all the young men,—all this shows that their hearts were not organically diseased, that

they were essentially physically sound, and that their ailment was truly functional. The demand and ability to carry out life-long physical exercise also points to an overplus of nerve force and an undeniable necessity of draining the surplus innervation to the large muscles of the body. But it also points more surely and clearly to the fact that only by this means could the eyes be rested and the source of reflex irritation shut off. That, or something like it, appears the plain philosophy of the "nervousness" of eyestrain sufferers, and their absorbing need of physical activity. The greater number of literary men and intellectual workers show no such uncontrolled necessity, because these have no eyestrain. Whenever one has such patients, or reads of such men being great walkers, look out for eyestrain. Truant schoolboys are to be studied from the same standpoint. When 50 per cent. of epileptics have unsymmetric astigmatism, it is suggestive of a possible ocular origin of their disease, even though when epilepsy is fully established and extreme, it may not be curable by glasses. When young criminals are found to have an enormously high average of high hyperopia,—such as would absolutely interdict study and handwork—what can they do, if poor and naturally unmoral, what can they do but drift into crime?

Apathy and Exhaustion seem at first sight utterly at variance with a synchronous exhibition in the same patient of nervousness and an impulse, not to be disobeyed, towards activity. In Whittier the exhaustion, anemia, and apathy, were more pronounced than in any of the others. In Darwin the psychic fatigue and depression co-existed with the spurred and jaded body. In Wagner and Mrs. Carlyle it came to a feverish coexistence and alternation of exhaustion and activity, both morbid. In the others it phased itself in varying degrees of predominence and alternation. The intense melancholy and depression of Carlyle, Whittier, Darwin, Wagner, etc., and of most "dyspeptics" is proverbial, and has even provoked many absurd pathologic sayings, themselves pathologic, such as "Genius breeds upon a dyspeptic soil," etc.

One heartrending result of their exhaustion was the desire or fear of death, or of worse than death, insanity. Darwin was always on the edge of despair and at one time in middle life made his will in view, as he thought, of approaching death. Carlyle often shuddered at the apparent uselessness and fatigue of life, and the advisability of death. Wagner was constantly tempted to suicide, and at one time seems to have resolved upon it. Whittier, Nietzsche, Wagner, all were convinced, in youth or mid-age, that their lives had been lived out, and that nothing was left to do, at least no ability to do it. The peculiar nature of eye strain, the rapidity with which it produces morbid reflexes, and is

relieved, easily explains the facts of the co-existence and alternation of exhaustion and irritation. They are mere aspects of one neural and psychic fact.

The Ocular Symptoms. One eye of De Quincey was kept closed in the latter part of his life when he was reading or writing, and is plainly divergent in his portrait. That proves a life of intense ocular strain. In the latter part of Wagner's life at least, the left eye was turned upward and outward and the forehead wrinkled to keep the lid above the pupil. That demonstrates many years of grievous suffering. Parkman's photophobia was his first and most constant symptom during life; he also had blepharitis and meibomian cysts. Pain in his eyes was as constant a symptom with Nietzsche as pain in the head and gastric trouble. Most people would think that because of these ocular symptoms, such patients more certainly had eyestrain than the others without a single ocular symptom. This is not so. The almost universal rule is that the more severe the reflexes the more certainly the eyes themselves do not complain; or conversely, the more the eyes are injured by ametropia, the less the reflexes are shunted to other organs. That five out of twelve striking cases of eyestrain had severe ocular symptoms is highly exceptional, and shows that their defects were peculiarly irritating and the labor to which the eyes were put was particularly severe. Parkman's photophobia was very exceptional. In old countries where patients do not have their errors of refraction properly and accurately corrected, one frequently sees patients with blue or colored coquilles or "goggles" such as Parkman wore in the sunlight. Eyestrain frequently produces sensitiveness of the eyes to light, but in Parkman's case there was an extraordinary high degree of it. Parkman avoided headache at least, if not gastric trouble also, by stopping near-use of the eyes. His "stirred-up head" with the least use of his eyes, would also stop when he ceased to work with eyes or brain. The most noteworthy of all the cases was that of Nietzsche, in whom eyes and brain suffered equally and coincidently, both more than the digestive system, and all ingravescent, until his mind gave way. This demonstrates the marvellous balance and equal resistance of all his organs and powers. The eyes first gave way, then the mental mechanism.

Some other Symptoms. Connected with the insomnia of eyestrain is the symptom of night-terrors, bad dreams, restless sleeping, etc., noted in the child Wagner, and in almost every child brought to the oculist's office. Unless relieved in the one possible way, it means a life of intolerable suffering. I have in a day cured a number of children of nocturnal enuresis by glasses alone. The fickle appetite, especially for breakfast

the anorexia of such children, is also indicative of the same morbid cause. Extreme sensitiveness to noise is an aspect of the symptom of insomnia that has been noticed. Complaint of the "nervousness" of patients young or older, the "fidgetiness," etc., of the waste and rush of our modern nervous life, fills the newspapers and magazines. Much of it is due to eyestrain. As high a proportion as 50 per cent. or over of modern school-children are pronounced backward or subnormal in physical and mental qualities. Child-suicide, the most frightful symptom of civilization, and general insanity, are both mathematically in proportion to the number of hours of school-study demanded.

A critic has spoken lightly of the vast amount of drugs taken by the Carlyles in their struggle to prevent or cure their diseases. Quain was scornful and said that drugs and gingerbread caused Carlyle's woe. Nietzsche's sister, as much as the beautiful soul can be, is harsh-toned when she alludes to her brother's drug-taking. But what else could they do? Who would not do the same under the like provocation? And Mrs. Carlyle would have been happier if she had taken as much morphin as Mrs. Browning. It is indeed true that opium was a blessing to De Quincey, as he said it was.

Before stopping I wish to allude to facial eyestrain expression. Observant oculists notice it when some patients enter the room. It is not always present, just as ocular symptoms may be absent in the worst cases. I should say that the expression of the eyes and face is characteristically morbidized in 50 per cent of such patients, especially the older ones. In children with eyestrain anemia, anorexia, and night-terrors, it is however, usually to be detected. It is not a result of heterophoria, the latent or the permanent turning of the eye outward, such as De Quincey and Wagner had. That is a different matter and causes a different expression. It is an almost indescribable haunting signal, as of exhausted and hopeless suffering, a sort of haggard, sunken look, telling a tale of pained, tired, and useless effort. In the late photographs of Darwin, of Carlyle, of Mrs. Carlyle, and of Whittier, it is evident, and suggestions of it exist in those of others. (It was this look that first suggested to me many years ago that Carlyle was an eyestrain sufferer). It is plainly present in the pictures of Beethoven, Tennyson, Mrs. Browing, etc. The "Bachelder eye" of Webster, Whittier, etc., I suspect was a result of the intensity and victory of the effort to compensate for the eyestrain present. Old painters sometimes reproduced the eyestrain expression more or less perfectly in their pictures of medieval saints and ascetics

Lastly, I cannot forbear allusion to the influence eyestrain sequels have had on the growth, during the last century, of European spas and

health-resorts, springs and waters, sanitariums, cures, establishments, etc. The histories of the search for health at these places by Wagner, Nietzsche, Darwin, Parkman, and Huxley bring vividly before the mind directly, and as much by indirection, that these resorts came into being largely, if not principally, in a pitiful attempt to cure eyestrain. Pleasure places and fashion resorts, one realizes often grew out of the superstition. The hunt for diet doctors and water doctors was so intense that its ludicrousness is almost as crying as its unavailing resultlessness, and both are only equaled by the pathos of it all. Hydropathy, its gulls and its gullies, are still dismally echoing in the twentieth century. The peculiar kinds of diseases and of patients on which fatten a hundred forms of quackery, eddyism, osteopathy, absent healing, and all the nauseating rubbish of several million maudlin American cranks and scamps, are also in big part due to an attempt to treat astigmatism by ignoring it, or by means of that potent article of the materia medica, vulgarly named "tommy-rot."

Intercurrent Diseases. Several of the patients, e.g., De Quincey and Nietzsche, seemed extremely subject to influenza or colds; and especially Mrs. Carlyle. When not suffering from headache she was always suffering from colds or influenza—"eight influenzas annually," said Miss Martineau. They afflicted her all her life, most exasperatingly and most wearingly. I have not copied all the excerpts which prove the continuousness and severity of these seizures. It is gratifying to be able to quote a great medical authority that such attacks of colds and influenzas—

"May be due to microorganisms, or local conditions in the air passages, but these maladies, as we now know, both depend to some extent on a special predisposition in the sufferer, having its root in the nervous system, and both leave their stamp on that system and gradually undermine it."

Now here is a truth, or a glimpse of it, that deserves most careful pondering by the profession. In Mrs. Carlyle's case it is noteworthy that these colds and influenzas did not co exist usually with headache and sick-headache; that they came on in a most unaccountable manner, without explainable reason, usually in winter, and remained long; and most remarkable that they ceased at the time of the great change in 57 or 62. Wet or foggy, or not, driving, sailing, or not, she is at this time, "perfectly astonished with the impunity, etc." All of Mrs. Carlyle's sick-headaches were caused by eyestrain, a fact beyond all question. As little doubt can there be that no cause can more directly and infallibly upset and morbidize the nervous, mental, and nutritional

mechanisms. It thus supplied the "nervous system" with precisely the predisposing condition Sir James Crichton-Browne gives as the cause of colds and influenzas. The inference is very suggestive that Mrs. Carlyle's influenzal attacks were the reflex results of eyestrain. The smile of incredulity with which the allwise may receive the thought has nothing to do with its truth or falsity. In private practice the fact of the interconnection of nasal and ocular diseases has often been noted. Illustrative cases have been published. The details of one such are of exceptional interest:

A healthy, clear-headed, intellectual man, was given two pairs of spectacles for his myopic astigmatism, a stronger or higher correction for use at the theater, driving, etc., a weaker correction for reading and daily or constant use. For a year his wife and daughter observed, without telling him, that whenever he wore the strong, or accommodation-exciting glasses, he "caught cold," with coryza, hoarseness, etc., which at once disappeared when the weaker lenses were used. He used the stronger ones but a few times a year. When certain of the strange coincidence his wife told her husband. In the past ten years the cold has been produced in this way—a hundred or more times. Now if his weaker glasses get "crooked" or maladjusted, miscorrecting his axis of astigmatism by a few degrees, his cold promptly appears, to vanish in an hour after a visit to the optician.

Such cases of the interrelation of nasal and ocular disease may be rare, but the careful diagnostician will always be on the lookout for them.

Several of these patients also complained of paretic symptoms. It is not impossible that they were due to a reflex ocular neurosis for I have had cases of numbness, aphonia, pareses, and partial paralyses of hands and arms due directly and beyond all doubt to severe eyestrain, and disappearing at once with relief of the cause.

Nietzsche, Mrs. Carlyle, and others, had more or less constant rheumatism, and Parkman had life-long arthritis. A sound and healthy hip-joint, the supposed seat of neuralgia, has, I have read, been opened for toothache. Mumps may be located in the parotic or in the orchitic gland, and cases have been reported of transmigration to the brain. One who is careful to avoid the subtle demon of prejudice will not rush into dogmatism about the matter, either that such rheumatic affections may depend or may not, upon eyestrain, that is upon the ocularly-caused abnormalized nerve centers of control, vasomotor, reflex, or nutritional. There are multitudes of more seemingly absurd facts than that, well attested too, by physiology and pathology. Throughout his eyestrain

life from childhood on, Wagner was bothered by ever-recurrent attacks of erysipelas. How far that affection may also depend upon innervational and morbld vasomotor antecedents, I do not know, and I suspect no other does.

The Heredity Theory. When a certain class of medical and other scientists cannot explain a pathologic fact that is unduly troublesome, there is a hasty scuttling to the protection of the god of heredity. In one of these eleven cases, to the facts that the father died of typhus fever, that uncles and aunts had few children, and that the patient had sick-headache, is ascribed her sick-headache. That seems hardly scientific, and certainly does not explain her "climacteric insanity" nor her sick-headache. Heredity is not at all understood and has been unduly and illogicly advanced to explain disease. It may be fairly said that it fails to explain more frequently than it explains, and the instances in which the supposed law is absolutely nonexistent are more numerous than those in which it seems to give hints of a possible reason. Browning's physician acquiesced in the fatalistic necessity of his patient's headaches because in facial expression he resembled his mother. He forgot to ask where Browning's mother got her headaches, and if it were necessary to go back to Mother Eve. As all the world do not have headaches it would follow that one half, exactly, must have them (possibly correct) and that Adam had none. From such childish science one can only turn with the evident question, what caused the headaches in the mother and in all ancestors ?

The Climacteric Theory should have long since been abandoned. In order to apply to women it should have been noticed that the sexual climacteric is not synchronous with the climax of the symptoms. These grow more intense for about ten years after the menopause, and this fact makes a careful observer smile ironicly at the pitiable hint of over-sexual minded women patients and of the professional opinion which has encouraged it. The mere cessation of a function not necessary to the life of the individual organism, hair-growth, loss of teeth, loss of eyes, etc., even the excision of arms, legs, uterus, etc., does not produce positive symptoms. The *coup de grace* of this ridiculous climacteric insanity nonsense is given by the very simple observation that the climax of the same kind of sufferings of men comes at the same age as in women, and if men have a sexual climacteric at that age, the genito-urinary surgeons have misinformed us.

A Physiologic Truth Ignored. Concerning the twelve patients considered, of all earthly things each most needed a simple optical device to have freed them, and to have turned the bitterest tragedy to perfect

joy. All except one, inheriting the traditional and ridiculous prejudice, affected to scorn spectacles. For the rest, none except one could have obtained scientifically correct ones, and only in his old age, and he, alas, failed. Optics, opticians, scientists, physicians, all had forgotten that simplest of physiologic truths that no muscle can be steadily and continuously innervated without pain, even for a few minutes. Of the ametropic eye the literary worker demands such an unrhythmic strain of innervation for consecutive hours, and for five, ten, and even sixteen hours a day. The intimate association of the eye with every organ of the mind and body, the amazing delicacy and complexity of the mechanism of vision itself, the absolute dependence upon it for safety and sustenance, makes accurate seeing the *sine qua non* of the life of the organism. Accuracy in this supreme function has been insured by the punishment, on Darwin's own principles, of the organism endowed with the faulty organ—the head cannot direct because of pain, and the stomach with connected organs will not supply food to any part of the machine because it cannot digest. The sole conditions of safe and useful existence, the mathematically picturing eye, being denied, nature strikes work and refuses brain and digestion. That may sound somewhat transcendental, and deductionist in logic, but if Darwin, and Spencer, and Huxley are correct in their science, it is exactly what takes place in the struggle for existence by the elimination and destruction of noncompeting and unsuccessful organs and organisms. Science and medical science, flushed with bacteriology and surgery, and prepossessed, obsessed almost, with the thought of the infectiousness of disease, may neglect this truth, but not for much longer, and already with danger and expense.

The Cause of Disease and the Cure. Just now the cry goes up from a united profession, and is appealingly echoed by kings and prime ministers, "Discover for us the cause of cancer." The most famous man in the world would be he who should make the discovery, and he would be justly honored. But might it not come out that after all our acclaiming we should be no nearer an effective therapeutics than now? We know at last the causes of the two diseases of the respiratory organs which kill more than any other two. Is their deadliness any less because of our knowledge? It emphasizes the measures of prevention, and proves they are proper, but tuberculosis and pneumonia kill as many as before. Prevention is not the same as cure, it is of course better; but the laws of prevention are learned by simple observation, seeing macroscopically rather than microscopically, and reasoning straight from that, plus effective putting into practice of the known needed thing. It is again the old question of morbid soil and morbid seed. Hygienic living

remains still the one preventive of the pulmonic conditions which make pneumonia and tuberculosis possible. One of the most successful, one of the most potent preparers of the morbid soil for any infectious disease, is eyestrain, and it will in time be recognized as such. There is no single more prolific source of the anemia, denutrition, than eyestrain and its reflexes, which prepare the soil wherein may spring up the weeds of any disease.

Eyestrain and its Results Depend, first, upon the kind and degree of ametropia and muscle imbalance, the latter a secondary and rare factor, The low and slight astigmatisms and anisometropias are more injurious to the nervous system than high errors. High errors change character and occupation, low ones disorder nervous control and nutrition. This is because the low error can always be only temporarily neutralized or compensated for, while at the same time the attempt to neutralize can never be renounced. It is a true task of Sisyphus.

Second: The results of eyestrain depend upon the kind of organism in which they occur. The chemic reaction depends upon the substance in which the reagent falls. If the resistances or vital powers are great the effects will be small, even of bad kinds of ametropia, while a small strain upon a morbidly unstable organism will end in disastrous consequences. The reflexes, like all forces, will take the line of least resistance, and expend themselves on the less resistant organ. In an organism like that of Nietzsche, with splendid and equally resistant cerebral and nutritional systems, no one will give way, and the invader, not dreaming of desistance, the storming of all the defenses continues until the defending general sacrifices himself for the cause of peace and to save his few remaining supporters. Rare as they are, such "victories" exist, and are the most lamentable of the results of the war of civilization.

Third: Although but two of our twelve patients were women, the hurt of eyestrain generally is greatest in the female sex. For several reasons the incidence of the morbid effects of eyestrain falls far heavier upon women than men. Their organizations are more unstable, they are more emotional, and they are more sensitive to slight stimuli or inhibitions than men. These are powerful and effective reasons. I see other vague but real reasons why femininity, sex itself increases the liability, but I cannot even recapitulate them here. Outweighing all the others, however, the dominant cause of this seemingly unjust law of nature lies in the simple fact that women do most of the sewing, have more leisure for reading and handwork amusements, and because they live indoors far more than men. It is true that men are seizing upon many of these occupations, tailoring, handicrafts, etc., but that only makes the woman-tragedy the more severe and bitter as they are forced to other kinds of

more enslaving eye-labor. The suffering that is going on in conventual and educational institutions, and in the sewing-rooms of the old countries, is literally appalling. A charity that would supply poor workwomen and workmen with the services of scientific oculists and scientific spectacles would stop more suffering than the combined almsgiving of the world.

Fourth: But the preceding conditions all depend upon a fourth. Eyestrain is wholly a disease of civilization. It is entirely an occupational disease. As an Indian or an African savage, the ocular defects of any of the twelve patients would not have produced a single morbid result of the kind illustrated. Even a basket-weaver or arrow-chipper with the astigmatism of a Nietzsche, would have found other work or been forced into it. He would have failed in the chase or in any art requiring accuracy of vision, and the god of natural selection would have dispensed with him in the old terrible way; there would have been no pain or insanity. This is because the morbid results of eyestrain depend entirely upon use of the eyes within reading or writing, or hand-distance. The more such use the more baneful the consequences. Civilization has multiplied a hundred or a thousand times the amount of such near-range work, and the multiplication still goes rapidly on. In making the eye, evolution never foresaw civilization, and that mechanism, created for accuracy of distant vision, is most glaringly ill-adapted for the near vision our modern life relentlessly demands. There are a few occupations in civilization, slowly being weeded out however, in which our twelve patients could have been happy if—and what an if that is!—if they could each have renounced the intellectual life. Underthis proviso they could have been contented and useful citizens, *e.g.*, as osteopathists, mental-science healers, policemen, night-watchmen, stage-drivers, cattle-drivers, cowboys, burglars, or even political bosses and senators,—but they could not have passed a civil-service examination, or have been of intellectual service to their fellowmen.

"*Great Wits and Madness.*" Dryden's famous couplet is a poor and untruthful variation of Aristotle's "No excellent soul is exempt from a mixture of madness," and of Seneca's *Nullum magnum ingenium sine mixtura dementiæ.* The truth, the little truth, there may be in the sayings, consists principally of three constituent errors: 1. The people who accept such a psychology of genius and insanity are themselves incapable of knowing or understanding in what genius or madness consists, and view both as something alien. They are in no danger of illustrating either *ingenium* or *dementiæ*; 2. They may drive the genius into dementia by their stupid unrecognition and even hatred; 3. A genius may go mad because of eyestrain. Mrs. Carlyle,

tortured for forty years by excruciating bodily suffering, may, in the crisis of pain, and the mystery of it, gaspingly demand a promise that if she goes mad she shall not be put in a madhouse; De Quincy may prevent pain and insanity by opium; great alienists may assure Parkman he will soon be a maniac, and may class Schopenhauer and Wagner as such; Wagner may live in fear of it; and Nietzsche may be crushed into the horrible actuality of it. It all proves not the silly pathology of the proverb, but the sin, and the want, of medical science. A simple, or rather, speaking in optical terms, a compound pair of lenses would have absolutely prevented the entire tragedy in each case.*

Influence of their Diseases upon the Character of their Work. The life-work of DeQuincey, the best classic scholar in Europe at the age of 14, in view of that marvelous beginning, must be pronounced pitiably disappointing. So far as its morbidness and other qualities were directly due to opium, they were also, I am sure, due to eyestrain. So far as he failed to utilize his great intellect the result was directly due to eyestrain. There cannot be any doubt that the pessimism, gloominess, injustice, exaggeration in style and judgment, dictatorial and overbearing harshness, the history in lightning flashes etc., of Carlyle, are the consequences of the disease which made him write, as he said, with his "nerves in a blaze," "in a red-hot element which wastes the life out of me." That is to say, a fury of innervation had to be aroused to overcome the eye-defect. This intensity was ruinous and was of course followed by an equally morbid depression and exhaustion. A similar method and result was necessary in the cases of Wagner, Nietzsche, and was present in a minor degree in Huxley and others.

Surely the frequent over-critical sharpness and acidity of Mrs. Carlyle's letters, and possibly of her conduct, were the cry of her suffering brain.

Darwin's lassitude, his lack of physical energy, the dragging step and the spurred jadedness showing in face and walk, seems also present in his slowly formed conclusions, and in a certain irresoluteness of style and matter.

In Huxley a love of polemics and a controversial harshness, etc., may have been due to the exasperation and intensity which his malady produced.

* Three months ago a professional student from a great university came to me with a typical history of intense eyestrain which had forced him twice to renounce his intended career. Utter breakdown was again upon him. The cerebral and psychic symptoms were terrible Suicide was constantly in his mind. He returned recently to thank me for his glasses and to say he is happy and studying hard, and that he stands scornfully smiling at the locomotive as it approaches him, while he has not the least hint of his old impulse to throw himself before it.

The naturally rugged and English intellect of Browning may have been directed to recondite metaphysical and ethical subtleties, and his expertness as a versifier almost destroyed, by the cause that set him to walking and working in Italy, instead of among Anglosaxon scenes and peoples and to be satisfied with hastily grasped truths that did not need the artist's reworking and polish. The change to England "had a most depressing effect." His involved and obscure sentences, abrupt breaks, interpolations, etc., are possibly the result of the eyestrain that would not allow finish and outworking. His MSS. show few corrections.

How much more perfect and wonderful might have been the almost perfect and always wonderful art works of Wagner if he had not had a quivering and suffering and exhausted nervous system! Instead of the contentious and unneeded controversialist prose writings, and especially the pessimism which is an almost inevitable result of a tortured and jaded nervous system, instead of frequent crudities and much over-emphasis in his operas, we might have had a hundred times the number of heavenly things he has left us.

Parkman's affliction seems to have had little result upon his literary work except to limit tremendously his productivity. Unless over-conciseness and prosaic sternness were consequent upon the prison-like narrowness of his necessities, the iron logic of his character defied all the cruelties of fate to change or modify his mind or the quality of its work.

Whittier was a true neurasthenic, without a single clinical symptom of what goes by the etymologically absurd name of neurasthenia. The sad apathy of his mind and body late in life is in sharp contrast with the fire of the earlier anti-slavery reformer and politician. His poetry reflects the altered necessity of his life.

Herbert Spencer escaped the fate that would have been inevitable with greater use of his eyes, but the limitations and materialism of his magnificent attempt at "syntheticising philosophy" are too evident to need reemphasis. The man who could not read German, could not synthetize "philosophy" in the nineteenth century. And a man could never have learned German and mastered German thought, who at the age of 83 could "read without spectacles."

Margaret Fuller Ossoli's literary work was but a suggestion of what she might have done had not eyestrain and its effects kept her neurologically and financially impoverished.

The youth who at 24 was a German professor of philology, who had so splendid an organization, physical and intellectual, as had Nietzsche, who was forced to give up that professorship in ten years because of suffering of eyes, head, and digestive organs, and who at the age of 45 was steadily and fatally driven into insanity by his ingravescent

atrocious eye defects coupled with love of knowledge, just at the time presbyopia was beginning its cruel exaggeration of misery,—such a man and such a fate is the very limit of the awful and the tragical. If a scamp of a Nordau says it was all due to Schopenhauer or to unmentionable causes, the answer comes quick that pessimism is the almost inevitable outcome of years of the torture, the denutrition, the drained life-power, and the disappointment due to an eyestrain so atrocious as that of Nietzsche.

The Professional Blunder. For twenty-five years the medical profession has had placed before it the evidences of the pathogenic results of eyestrain to the entire nervous and physiologic economy. The fact was first called to its attention in 1875 in a most reputable periodical and by a most trustworthy physician. There is no evidence in European literature, so far as I know, that any physician of England or of the continent has ever read this article, or the hundreds that have followed it, or cared a fig for its teaching. The stomach specialist has continued to treat the special organ as if its functional diseases had no relation to the general system. Biliousness, like a wandering and very ancient mariner, transfixes us with his glittering and yellow eyes, and lays his spell even upon the wedding guest of science; dyspepsia is drugged and studied, and headache is drugged and not studied. All the time spectacle-peddlers fill the land, ruined eyes and lives multiply, the patent medicine disgrace rules legislation, bitters grow more alcoholic, tons of headache powders are sold every year, and the carnival of eddyism and blatant quackery goes more wildly on. And much if not the most of it all is due to neglect of the physiology of the eye and of its reflex neuroses, and carelessness as to the functional diseases which depend upon eyestrain. The deadliest blow that can be given to quackery in and out of the profession, to the patent medicine and eddyistic humbugs is to prevent the dyspepsias, anemias, neurasthenias, and headaches which are caused by eyestrain, and whereon battens the multitudinous quack incarnadine.

Not the Genius alone but the Common Workman and Workwoman, should be in our mind. One is very likely to get a very distorted, or at least one-sided idea of the role of eyestrain in the world if he sees it only from observing its disastrous effects in the case of great literary and scientific minds. The symptoms and the kind of tragedy it brings to the mechanic and the mechanic's wife; to the sewing-woman, clerk, housewife; to the lonely and distant settlers far from cities and oculists; to the millions of school children and college students; to professional men and women of all kinds,—these are different calamities and they

present in each case a separate problem. The one fact common to high and low is that it morbidizes character, doubles suffering and personal burdens, lessens all productive capacity, depreciates the national valor and validity and wealth, and delays the advance of civilization. This last is its most evil effect, because every act and product of intellect is intermediated by vision.

Value to Nations and to Civilization of its Great Men. The most valuable products and assets of a nation are confessedly not its material things, not those measurable in financial terms; they are not discussed in its legislative halls, or much thought of by kings or presidents. Worth all of these things are the few literary and scientific geniuses that silently emerge in each century. How inestimably valuable were the men whose clinical lives we have hastily studied! And the amount and character of their intellectual product was limited and qualified by their bad health. Of their atrocious sufferings their contemporaries were incurious, and to them indifferent. The pathos and pity of it is appalling whether we think of it as a personal matter or from the standpoint of the progress of civilization. How narrowly each escaped absolute failure to deliver his message, how fine the line between utter loss and the saving of even the wreckage; and there is added poignancy when one considers that it was precisely the act of doing their intellectual tasks that brought the suffering, that crippled and morbidized the results, and that brought the danger of absolute failure itself.

We must also remember that not these few only were they that were lost or ruined, or morbidized. By the very nature of the cases, in the vast majority of instances, the records are wanting from which to gather knowledge of the losses or hints of the failures. With only a little search twelve startling examples have been found. The evidence that has come to us in these twelve examples is too indefinite and unscientific as to details, although it leaves no doubt as to the fundamental and essential pathogenic factor. Had we but data concerning de Maupassant and his insanity, if we knew the facts about Swift, Chatterton, Keats and a multitude of budding or blasted geniuses, many of whose names are unknown to us. For, wherever intellect has sought the solution of the mysteries of our life, wherever reason has attempted to lessen the world's load of suffering and ignorance, there may the eyes have been defective, upon which all results depended, all results to the worker and to the aftercoming workers, who we are. And so it comes to this that the geniuses, the instruments and makers of civilization, depend at last on the medical profession. At last and late we are rising to the measure of our opportunity and our duty.

THE INTER-RELATIONS OF DIABETES AND OTHER CONSTITUTIONAL STATES.*

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THE great error dominating conceptions of disease in their clinical and therapeutic aspects is that which fixes upon one symptom as a test of disease rather than the symptom-complex. Perhaps in no disorder is this better illustrated than in diabetes. The predominant symptom of diabetes is glycosuria. This condition may not only be an expression of many diseases but may be at times merely the result of excess in carbo-hydrates. Glycosuria occurs in all the neuroses not as a complication but as an expression of metabolic instability resultant on nerve disturbance. The vaso-motor nerves of the liver have their origin in the floor of the fourth ventricle and pass through the cervical and upper dorsal regions of the spinal cord the rami communicating opposite the fourth or fifth dorsal vertibræ to join the sympathetic and enter the liver as the hepatic plexus. Injury to the fibres at their origin in the fourth ventricle, in any part of the spinal cord, or of the sympathetic itself is followed by glycosuria. Conditions such as express themselves in glycosuria and allied sub-oxidations readily occur in the neuroses. Hysteria may be complicated for instance with glycosuria of transitory or prolonged duration which may eventuate in coma of an apparently diabetic type but which disappears with the disappearance of the most marked hysteric symptoms. The great neuroses, paretic dementia, locomotor ataxia and epilepsy, occasionally display temporary glycosuria.

Delirium tremens and the confusional insanities may at times have a temporary glycosuria. Every one of the febrile conditions may be glycosuric. Conditions in which respiration is involved are often accompanied by glycosuria. Pregnancy being a condition in which there is over nutrition, faulty elimination and resultant imperfect oxidation is often attended by glycosuria. The patient may be glycosuric only during pregnancies. Glycosuria may come on during pregnancy and be present during the period only, or it my occur immediately after pregnancy is terminated and may recur sometime after and may remain for a long time after pregnancy and then suddenly disappear.

Gout and insanity of the auto-toxic types frequently alternate with glycosuria. During the mental disease, or during the gout glycosuria is absent and its re-appearance is an indication of recovery while its disappearance is the precusor of an attack. What is true of glycosuria is likewise true of the states allied to it, acetonuria, etc. Every one of the acids from sugar metamorphoses, may be formed in the urine of depressed mental states and after the apoplectiform and epileptiform

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attacks of paretic dementia, the crices of locomotor ataxia and the status epilepticus.

Independently of the symptom-complex diabetes, there are states of which glycosuria is a symptom consequent on suboxidation which they produce that are temporary in character and have not the permanency characteristic of the disease diabetes. Many neuroses, however, are an expression of the suboxidation states constituting diabetes. In all of these glycosuria may disappear just previous to cerebral complications. The disappearance of glycosuria very often is an expression of imperfect elimination through renal insufficiency rather than a disappearance of sugar from the system. In a diabetic in a severe state of hyperglycemia sugar may be absent from the urine, yet the patient may pass into acidosis with resultant coma. Neurotic manifestations of diabetes comprise lesions of motility, of general and special sensibility of the intelligence and of trophic functions. Among the most marked motor manifestations are fatigue, lassitude, and deprivation of muscular energy which does not depend upon muscular weakness pure and simple, but may strongly suggest a medulla affection. It is not always well marked. It may suddenly disappear to return as suddenly and may first occur in consequence of a slight traumatism. Apoplexy with complete coma may occur, followed by hemiplegia, recovery from which may be rapid and complete.

Sometimes there is sudden loss of consciousness which disappears so rapidly without resulting paralysis as to suggest epileptic states. Vertigo sometimes occurs alone, and sometimes precedes paralysis. Paralytic symptoms occur without loss of consciousness. Hemiplegia may be attended by very bizarre phenomena. In one case a left hemiplegia was accompanied by a monoplegia of the right eyelids. Monoplegias are very frequent in diabetes and are apt to be extremely transitory. Paralysis of the right arm and face, ptosis, pupil dilatation, strabismus, and hesitancy in speech may follow glycosuria. While speech disorders are generally due to buccal dryness, yet true aphasia occurs, and aphonia from laryngeal paralysis is far from exceptional.

Imperfect muscular co-ordination in the dark attended by formication in the extremities may lead to a suspicion of locomotor ataxia. Cramps of the akinesia algera type frequently attack the lower extremities, especially at night and play an important part in the production of insomnia, being often the first indication of cerebral circulatory disturbance and may be precusors of serious complications. Convulsions may be associated with coma, or may accompany paralytic phenomena. At times they present the monoplegic epileptic character and alternate with transitory paralysis of the same side.

Diabetic vertigo often assumes an epileptoid character. Asthma, exopthalmic goitre, and other respiratory neuroses are not infrequently temporary expressions of diabetes. Underneath them and many diabetic neurotic states, lies the "air hunger" of the tissues, which is simply their expression of the need of oxygenation.

Diabetic absorption of oxygen as Voit, Peltenkoffer and others have shown, is much less than the normal and decreases till towards the end of the disease when it is hardly half the normal quantity. Carbon dioxide exhaled is proportionally reduced. This oxygen decrease Sajous ascribes with much plausibility, to supra renal disorder. Increased supra renal activity, as Croftan has shown can so augment the ferment producing power of the pancreas, as to greatly increase sugar elimination through increase of the amylolytic ferment supplied by the pancreas which converts the liver glycogen into dextrose.

Herein lies the explanation of neuropathic glycosuria and of diabetic neuropathics. In the first, the cause is primarily in the cerebrospinal system. In the second the hepato-pancreatic-splenic-adrenal system is first affected, and the resulting toxic products because of disordered oxidation, cause the nervous symptoms.

The most furibund symptom of diabetes is coma. Under this title are included many conditions varying from mental depression through apathy to stuporous states with or without absorption in agonizing dreams or delusions. One of the most distressing conditions of partial stupor is that attended by psychic nausea where the nausea conception is intense but unattended by gastric disorder. Cases of this type often occur just after seeming coma, the patient refusing treatment because he believes his stomach is too squeamish to retain medicine. As the mental state is attended with loss of determining will power, like most depressional, stuporous or apathetic conditions, this psychic nausea and its effects are readily overcome by large doses of a saturated solution of sodium bicarbonate. Tablets should not be given as they irritate the throat thereby increasing the strength of the psychic nausea.

Nearly all the mental features of coma and its allies just mentioned, centre, like all depressional mental states attended by acidosis, around the medulla oblongata.

This is the origin of the cardiac, pulmonary and gastric instabilities which occasion such alarming features in the comatose and apathetic conditions of diabetes. The starting point of these disorders is central not local. The cerebral centres of the lungs, heart and stomach being disturbed, local excito-motor ganglia have undue play and become exhausted. Resultant local disorders underlie the diabetic endocarditis,

diabetic myocarditis, diabetic phthisis, diabetic gastritis, etc. Diabetic skin and diabetic tissues are, moreover, predisposed to microbic attack.

The etiologic moment of coma, comatose and stuporous states consists first of the condition of the patient at the time of the attack, and depends largely upon the condition of emunctories. The kidneys may be in good shape themselves, yet because the intestines are acting imperfectly with fæcal resorption, the kidneys are overworked which is shown by the presence of an excess of indican and urea in the urine. Secondary to this occurs renal insufficiency with resultant acidosis from retention of imperfectly oxidized sugar products.

Given the muscular changes which produce B-hydroxybutyric acid, acidosis production with decreased elimination is intensified. The skin in diabetics is very deficient in eliminative power, which adds to the work of the kidneys. The lungs cannot quite supply the oxygen ordinarily needed, not to speak of the increased amount required for diabetes, much less can they oxidize products unphysiologically eliminated through them. The lack of oxygen increases depression and apathy, which in turn decreases cardiac and lung energy. The liver has its nerve energy lessened, yet has increased poison destroying work thrown upon it. The diabetic, when elimination is lessened, is in a very serious and unstable condition which the slightest shock will jar into coma, a comatose state, and epileptiform or apoplectiform convulsion. The premonition of these is generally given by lessening polyuria, suppression of urine, or by the finding first of cylindroid, then hyaline or granular casts. Albuminuria *per se* often means merely the urethral or prostatic irritations of diabetes. These as predisposing to microbic attack are of serious augury, but not as to coma, etc.

The sudden disappearance of sugar or sugar acids with increased casts is ominous of renal insufficiency and resultant toxemic cerebral states.

Another part of the etiologic moment is the condition of the arteries, whether due to diabetes, age, lues, rheumatism, gout, the exanthemata or mental or school overstrain.

Apoplectic extravasations during the coma, epileptiform or apoplectiform states may here lead to permanent mental or nervous disorders.

Hereditary defect may show itself in the etiologic moment peculiarly at the periods of stress: 2 to 6, 12 to 14, 14 to 25, 45 to 55, and from 60 on, when the system is undergoing evolution or involution.

There are many eye, ear, nose, throat, gums, skin, and genito-urinary phenomena found in diabetes which bear one of these relationships to the disease. They are an outcome of diabetes and are modified by it, or modify it, and finally they may be mere coincidences.

The common erroneous assumption that morbid states occuring during a diathetic state are due to it, is peculiarly accepted as to diabetes. While there is more truth than usual in the assumption as regards diabetes, still treatment of these local conditions will often do as much to relieve diabetes as treatment of diabetes does to relieve them.

The so-called "reflex" disorders exert their influence on the general constitution through continuous nerve irritation producing nerve waste and resultant autotoxemias, which, as has been shown are a peculiarly dangerous addition to the general burden of the diabetic. Treatment of all these conditions is required not only from the local standpoint, but likewise from the constitutional. This is especially true of the eye, ear, skin, gums, and genito-urinary system, whose disorders are certain to add to the atmosphere of worry, resultant nerve waste, and consequent toxic strain on the emunctories into which the diabetic is plunged.

Clinical study demonstrates beyond doubt that most cases of diabetes are at first expressions of nutritional and assimilational instability. In consequence of the over strain on the liver, adrenals, pancreas, spleen and kidneys, what were at first merely biochemic changes in these organs become permanent pathologic lesions, continuing constantly in excessive sugar manufacture without proper oxidation or elimination.

THE SIZE OF THE PUPIL AS AN AID TO DIAGNOSIS.*

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THE general practitioner, no less than the specialist, notices in almost every case brought before him for diagnosis, the *size*, the *shape*, and the *mobility* of the pupils.

First in regard to the size, they may be contracted or dilated, or they may be unequal, one being larger than the other.

Then in regard to the shape, they may, instead of being circular in outline, be oval or irregular in shape.

And in regard to the mobility, instead of reacting to the light (or other stimulus) they may be immovable or fixed.

Any of these changes suggest some abnormality, and it is the object of this paper first, to place on record the principal conditions in which these changes are seen ; and, second, to assist in the interpretation of these changes.

In order to understand the subject, we must briefly glance at the anatomy of the iris, in so far as it has to do with the changes in the shape of the pupils. We will find that nature has provided a special

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means for the contraction of the pupil, and a special means for its dilatation.

In the structure of this very vascular curtain is to be found smooth muscle. The fibres of this muscular tissue are arranged in two directions.

First, we find them arranged in a circular manner around the pupillary edge, forming a sphincter of the pupil, and known by the name of the *sphincter pupillæ muscle.* The remaining fibres are disposed in a radiating manner, constituting the *dilatator pupillæ muscle.*

But another agency having to do with the size of the pupil is the blood supply. We know that the bulk of the iris is made of vessels, which lie like the spokes of a wheel, but close together. These vessels can be rapidly filled with blood, so rapidly that some authorities speak of the iris as belonging to the erectile tissues. The more the vessels are filled with blood the smaller the pupil is.

Now, without going into the nerve supply of the iris, it will be sufficient to say that the sphincter muscle is supplied by the 3rd cranial nerve, the dilator fibres by the sympathetic.

The size of the pupil, then, is affected in three ways. 1st, by the sphincter muscle of the iris, 2nd, by the dilator muscular fibres, 3rd, by the blood poured into the iris.

Anything which stimulates, or irritates, the 3rd nerve will cause the sphincter to contract, thereby lessening the size of the pupil. Anything which stimulates, or irritates, the sympathetic nerves will cause the radiating fibres to contract, thereby dilatating the pupil. If, however, we have stimulation of the 3rd nerve, with paralysis of the sympathetic, we will have extreme contraction (i.e. pin point pupils), while if we have stimulation of the sympathetic with paralysis of the 3rd, we will see extreme dilatation.

What abnormalities or diseases are indicated by these various changes of the pupils?

A. The patient may have the pupils evenly contracted (myosis). This may indicate:—1. Locomotor ataxia (tabes dorsalis); 2. meningitis and encephalitis (early stages); 3. inflammation of the cervical cord (chronic); 4. apoplexy of the pons; 5. epileptic fits (early); 6. uræmic poisoning; 7. tobacco amblyopia; 8. inflammation of the retina; 9. opium poisoning; 10. the use of myotics (eserine, etc.); 11. long continued use of the accommodation, as seen in watchmakers, etc. (occupation myosis).

B. Where we have the pupils evenly dilated (mydriases). This condition is found in:—1. Paralysis of both 3d nerves (as after diphtheria); 2. Intra-cranial tumors (late stages); 3. intra-cranial effusions

(pressure signs); 4. irritation of the cervical sympathetic; 5. acute inflammation of the cervical cord or its coverings; 6. as a premonitory sign of tabes dorsalis; 7. intestinal worms, or other irritant; 9. after epileptic fits; 11. cataracts; 12. amaurosis (blindness); 13. acute mania or melancholia; 14. the use of mydriatics.

C. But, again, we suppose a patient with unequal pupils; then we may suspect:—1. Tabes dorsalis; 2. general paralysis of the insane; 3. an unilateral lesion of the 3d, or sympathetic nerve; 4. diseased tooth; 5. pain in any branch of the 5th nerve; 6. old iritis; 7. inflammation of the right or left retina; aneurism of the carotid or aorta or tumor of the neck of the same side (in early stages this will produce irritation mydriases in late stages, paralytic, myosis); 8. use of a myotic, or mydriatic, in one eye; 9. an unilateral lesion of the brain; 10. a congenital condition; 11. Acute glaucoma (unilateral).

Supposing any one of the abnormalities spoken of is observed, we at once proceed to see whether the pupils will react to the stimulus of light. This is done by facing the patient to a window (if possible) covering both eyes with the hands, then removing each hand in turn. If there is no dilatation in the shade or contraction on exposure to light, the pupil is said to be immovable, or fixed. (By darkening the room, placing the patient with his back to a light, and reflecting the light first into, and then away from, the eye by a small mirror, we can decide doubtful cases of contraction and dilatation.) By the foregoing methods we may determine whether a pupil is fixed or movable.

I. *The pupils are contracted and fixed.* Then, taking up our list "A" we may exclude: Uræmic poisoning, meningitis and encephlatis (early stages), inflammation of the retina, tobacco amblyopia, occupation myosis. For in all these conditions the pupils are not fixed, the movements, although slight, may be seen.

In list "A" remains: Tabes dorsalis, the use of myotics, apoplectic effusions, epileptic fits. The contracted and fixed pupil may be present in any of these. But the apoplectic, or epileptic, condition, and opium poisoning are usually easily recognized, so that we have only to differentiate between tabes dorsalis and the use of myotics.

The history of the case would quickly enable us to decide, but the standard methods of examination for a case of tabes (the use of the convergence test, etc.), should be brought into use. Summing up list "A" it may be said that contracted and fixed pupils point, in the majority of instances, to a case of tabes dorsalis.

II. *But the pupils although contracted are movable.* The principle use of recognizing this condition is that it enables us to be almost sure that we have not before us a case of locomotor ataxia.

III. *The pupils are evenly dilated and fixed.* This is a rare condition. Looking at list "B" it may be stated that some movement of the pupils may be elicited in all the conditions named except in blindness (amaurosis), the use of mydriatics, and in complete paralysis of both 3d nerves.

IV. *The pupils are evenly dilated and movable.* Little need be added to what is said under the last heading. Of course it should be noted that in the last stages of intra-cranial tumors and effusions no movement of the pupils can be elicited.

V. *The pupils are uneven but fixed.* This condition almost surely points to one of two things—it is either locomotor ataxia, or it is general paralysis of the insane. The size or shape of the pupil will not help us to differentiate between these two affections, but the history will quickly clear the matter up. Looking over the remaining portion of list "C" it may be stated that in unilateral lesions of the 3rd, or the sympathetic nerves, the pupil of one eye would be found to react freely; and in affections of the 5th nerve both pupils would react, but the smaller one less freely than the larger. In old Iritis, care must be taken, for sometimes the adhesions are so extensive as almost to bind the iris to the lens, to a large extent preventing movement. In every doubtful case a drop of atropine solution should be used. This will solve the difficulty, for the pupil will dilate between the adhesions, thus giving a notched appearance to its edge. And unless we have a case of double iritis, the pupil of the other eye will react to light. In all the remaining affections of list "C" movement would be seen in one pupil.

VI. *The pupils are unequal but movable.* In this condition we would probably find the cause to be a painful tooth or irritation of some branch of the 5th nerve. But the important point here is the fact that this condition of the pupils renders it unlikely that either tabes dorsalis or general paralysis is present.

Summing up the whole matter it will be noticed that, in almost every section, reference is made to locomotor ataxy. One of the most important deductions therefore is, that in every case of abnormality of the pupils (unless the cause is othorwise apparent) it is our duty to examine for locomotor ataxy. If this rule were acted upon many a one of these cases would be recognized or discovered in its early stages. When we recollect that much success attends early treatment of tabes, but that comparatively little can be done if the case is not recognized until it has passed into the later stages, the importance of this rule becomes at once apparent.

CURRENT MEDICAL LITERATURE.

Conducted by A. J. Mackenzie, B.A., M.B.

PARETIC DEMENTIA.

Dr. Neff, of the Eastern Asylum for the Insane, in the *Physician and Surgeon*, gives the result of his study of this subject in four hundred and fifty cases as follows:

(1) It would appear that the clinic syndrome of paretic dementia may be produced by several agents.

(2) An inherited tendency exists in a comparatively large number of cases and may be a strong predisposing agent.

(3) The percentage of syphilis in general paralysis is too considerable to be disregarded. In all probability it is an important element in the production of the disease.

(4) Other influences than syphilis may act and be productive of similar symptoms.

(5) The predilection of the disease to age, rest, occupation, et cetera, is as yet not clearly understood. It is probably referable to the idiosyncrasies of the disease.

(6) It seems probable that if an equal amount of study were given to other brain degenerations we would find the same variations in etiology.

THE PHYSIOLOGICAL DIFFERENCE BETWEEN THE TWO SIDES OF THE CHEST.

In the *British Medical Journal*, May 23rd, 1903, J. Edward Squire, of the Mount Vernon Hospital, gives the results of an investigation he has made in 58 cases—28 males and 30 females, who had healthy chests. The importance of a thorough and correct appreciation of these differences, not only in preventing a wrong diagnosis of a pathological condition, but even more so in avoiding classing as physiological what is really due to disease makes his conclusions of great value.

(1) In the majority of healthy persons but not in all, the physical signs elicited over the upper part of the right lung differ somewhat from those on the corresponding part of the left side.

(2) These differences consist in the following: (*a*) The percussion note is slightly less resonant and higher pitched on the right side; (*b*) the breath sounds are louder on the right side, and the expiratory por-

tion of the sound more marked; the character of the sound and the proportion between the length of the inspiratory and expiratory sounds is not modified in health; (*c*) the vocal resonance, especially in men is more marked on the right side; (*d*) vocal fremitus is more marked on the righs side.

(3) Of these differences the increase in the vocal fremitus is by far the most constant. Differences in the percussion note are only noted in half the cases examined.

(4) The differences, except in percussion, are not so much alterations in the character of the signs as modifications in transmission of the sounds.

(5) The modifications in the signs are apparently due to the direction and form of the main bronchus, which are not the same in the two lungs. The percussion note modification may possibly be influenced by the thicker covering of the right side of the chest, but is most probably also dependent upon the position and size of the bronchus.

JOHNS HOPKINS HOSPITAL BULLETIN.

The May number of this excellent publication contains a number of interesting reports. The first is by W. G. McCallum 'On the mechanism of absorption of granular materials from the peritoneum' in which the writer's investigation into the histological structure of the serous lining of the abdomen is described as follows:

"We have the peritoneal cavity lined by a complete layer of peculiar epithelial cells which lie on a basement membrane uniformly thin except where it overlies the lymphatic lacunæ in which position it is represented by a lattice work of fibrils separating the epethelium from the surface of the lymphatic. Approaching the peritoneum at these points are the oval sacs or lacunæ which are the absorbing terminals of the diaphragmatic lymphatics and which while possessed of a complete lining of endothelium are separated from the peritoneal cavity only by the loosely woven connective tissue and the peritoneal epithelium."

Absorption takes place for the most part through the peritoneum lining the diaphragm, being assisted largely by the pumping action of this structure in respiration as has been proven by experiment with pigmented solutions but even when this action is eliminated, the diaphragm is still found to be the part where much the greatest absorption takes place. The absorption of the pigment granules takes place through the intercellular spaces between the lining endothelial cells, and not through definite stomata, nor yet by the interposition of phagocytic cells.

Cabot and Locke report four cases from the Massachusetts General Hospital during the past year, in which, owing to the presence of a diastolic murmur, aortic regurgutation was suspected during life, but, at autopsy, normal aortic valves were found. The conclusions in the premises are as follows:

(1) Diastolic murmurs without organic valve lesions are not uncommon in connection with dilatation of the aorta, localized or diffused. (2) When the pleura and pericardium are adherent, owing to tuberculosis or other causes, diastolic murmurs are occasionally audible in the precordia. Such murmurs are notably affected by respiration and position; they are probably due, in most cases, to suction expulsion exerted by the heart upon portions of the lung adherent to the pericardium—"cardio-respiratory murmurs." (3) In cases of intense anæmia, when the red cells are reduced to or below 1,000,000 per Cu.MM., one occasionally hears diastolic murmurs not to be explained by permanent dilatation of the aortic ring nor as cardio-respiratory murmurs, and not due to a diastolic accentuation of a venous hum. The cause of these murmurs is obscure.

REMOVAL OF UTERUS IN DOUBLE PYOSALPINX.

Mann, in *American Gynecology*, July, gives as his opinion that in all cases of double pyosalpinx necessitating the removal of the ovaries and adnexa, the uterus should also be removed. He bases his judgment on the fact that it serves no useful purpose after such operation, that in all such cases it is infected and remaining is a source of irritation and danger, and that in acute cases its removal gives a free and valuable drainage.

Noble, in another article in this number, supports this view, claiming that his own results show a larger percentage of mortality; he also argues that there is less danger from hæmorrhage when the four great arterial trunks are ligated than when the uterus is left in position.

EDUCATION OF NURSES.

In the *Boston Medical and Surgical Journal*, June 18th, Dr. Denny, Brookline, Mass., calls attention to the inadequacy of the education at present provided for nurses in the hospitals' training schools owing to the extensive demands made on the energy of the pupil-nurse in the fulfilment of her practical duties. The lack of such education prevents her benefitting by the opportunities she has of seeing cases of all kinds, at least, until she has spent the greater part of her term of training, while the long hours and arduous employment, together with

the rather desultory and didactic manner of her teaching, make such education as she gets of little value. The writer looks for the solution in the establishment of educative institutions where the prospective nurse may spend a year or more in study of the various branches of science which are of service to her, and graduating from here receive appointment in a hospital just as members of the medical staff do. Doubtless both hospitals and nurses would benefit by such an arrangement.

SAWDUST AND FISH LIFE.

It has generally been held that the presence of sawdust in water is inimical to fish life, and both the Dominion and Provincial Governments have taken measures to prevent saw-mills depositing their refuse in streams, but recently the Dominion Fish Commissioner, Professor Prince, has claimed that no harm really results from sawdust. In view of this, a paper in the Kingston *Medical Quarterly* for April, by A. P. Knight, M.A, M.D., Professor of Animal Biology, Queen's University, will be found most interesting. The writer made a large number of experiments and investigations, and his conclusions are as follows :—

(1) Strong sawdust solutions, such as occur at the bottom of an aquarium, poison adult fish and fish fry through the agency of compounds dissolved out of the wood cells.

(2) The overlying water in such an aquarium does not at first kill fish. After about a week it does kill, but wholly through suffocation, the dissolved oxygen having all been used up.

(3) Bacteria multiply enormously throughout all parts of such an aquarium, and through oxidation change the poisonous extracts to harmless compounds. Mosquito larvæ live on the bacteria. No doubt, in natural pools, other aquatic insect larvæ live on bacteria also.

(4) Subsequent aération and sedimentation of sawdust water purify it, so that fish can live in it without injury.

(5) Since adult fish and black bass fry both refused to be driven into pine extracts in the bottom of an aquarium after they had experienced its poisonous effects, we may infer that fish would desert a river much polluted with sawdust, going down stream and into tributaries to escape from the disagreeable influence of sawdust extracts.

(6) No stream can be pronounced offhand as poisoned by sawdust extracts. Each stream must be studied by itself and the varying conditions must be thoroughly understood before a judgment can be pronounced. The chief things to be considered are, (1) The quantity of sawdust, and (2) the volume of water into which the sawdust is dis-

charged. Subordinate conditions are the rapidity or sluggishness of the stream, the amount of sunlight or shade, and the character of the water, whether from agricultural lands or primitive forests.

(7) Further observations along sawdust polluted streams and rivers of Canada are urgently needed before more definite conclusions can be reached.

TEMPORARY AND PERMANENT FILLINGS AS BARRIERS TO BACTERIA.

The *Dominion Dental Journal*, July, contains an interesting article by A. E. Webster, M.D., D.D.S., on this subject, reporting the results of a large number of experiments undertaken to determine to what extent the ordinary temporary and permanent fillings for teeth act as efficient barriers to the entrance of bacteria. The experiments were made with glass tubes, $\frac{1}{4}$ in. bore, filled with bouillon, the ends being stopped with the various fillings ordinarily used for teeth; when this was done the tubes were immersed in saliva and left there for varying periods. The conclusions as to temporary fillings are as follows: Gutta percha, temporary stopping, cement, cotton and sandarac, cotton vaseline and cement, are of no value to seal a cavity in a tooth for the prevention of infection from the oral cavity; but oxychloride of zinc is an efficient barrier. In permanent fillings, oxyphosphate cements, gutta percha, cotton, or any combination of these with each other, will not prevent the passage of moisture or bacteria. Oxychloride of zinc will resist the passage of bacteria for at least 60 days, but not moisture for that length of time. Some amalgams, if properly mixed and inserted, will resist the passage of bacteria, while others are useless. Many alveolar abscesses are doubtless due to infection in this way through supposedly efficient stoppings in pulpless teeth.

IS CASTRATION INDICATED FOR THE RELIEF OF PROSTATIC HYPERTROPHY?

In the May number of the *American Journal of Dermatology*, there is a symposuim on the subject of prostatic hypertrophy, consisting of answers given by a number of authorities in both America and Great Britain, to a series of questions propounded by the editor. Question No. 8 is as follows: Have you castrated for prostatic hypertrophy? How often and with what success? Of all the answers not one reports permanent benefit following the operation, the majority have never practised it and those who have done so report either no benefit or only temporary improvement.

THE GERMICIDAL ACTION OF ALCOHOL.

In the *Boston Medical and Surgical Journal*, May 21st. Harrington and Walker report the results of a series of experiments undertaken to determine the germicidal power of alcohol. Various strengths ranging from 15 per cent. to 99 per cent. were made use of, both with moist and dry bacteria belonging to the following classes, viz.: bac. coli. com. bac. pyocyan., staphylococcus pyogenes albus and aureus, bac typhosus, bac. diphtheria, bac. anthracis. Their conclusions are as follows:—

(1) Against dry bacteria, absolute alcohol and ordinary commercial alcohol are wholly devoid of bactericidal power, even with twenty-four hours' direct contact, and other preparations of alcohol containing more than 70 per cent., by volume, are weak in this regard, according to their content of alcohol,—the stronger in alcohol, the weaker in action.

(2) Against the commoner, non-sporing, pathogenic bacteria in a moist condition, any strength of alcohol above 40 per cent., by volume, is effective within five minutes, and certain preparations within one minute.

(3) Alcohol of less than 40 per cent. strength is too slow in action or too uncertain in results against pathogenic bacteria, whether moist or dry.

(4) The most effective dilutions of alcohol against the strongly resistant (non-sporing) bacteria, such as the pus organisms, in the dry state, are those containing from 60 to 70 per cent., by volume, which strengths are equally efficient against the same organisims in a moist condition.

(5) Unless the bacterial envelope contains a certain amount of moisture, it is impervious to strong alcohol; but dried bacteria, when brought into contact with dilute alcohol containing from 30 to 60 per cent. of water by volume, will absorb the necessary amount of water therefrom very quickly, and then the alcohol itself can reach the cell protoplasm and destroy it.

(6) The stronger preparations of alcohol possess no advantage over 60 to 70 per cent. preparations, even when the bacteria are moist; therefore, and since they are inert against dry bacteria, they should not be employed at all as a means of securing an aseptic condition of the skin.

(7) Provided the skin bacteria in the deeper parts can be brought into contact with disinfectants, alcohol of 60 to 70 per cent. strength may be depended upon usually, but not always, to destroy them within five minutes.

DISEASES OF THE EYE, EAR, NOSE AND THROAT.

Conducted by PERRY G. GOLDSMITH, M.D., Belleville, Fellow of the British Laryngological, Rhinological and Otological Society.

THE UPPER RESPIRATORY TRACT AS A SOURCE OF SYSTEMATIC INFECTIONS.

Dr. de Haviland Hall, at the recent meeting of the B. M. A., introduced this subject. He points out that the symptoms of measles, influenza and whooping-cough clearly indicate that the virus of these diseases enters the system through the upper respiratory tract. Cases were cited, showing that enteric fever may start in the larynx; while diphtheria is essentially a local disease at its commencement, the specific bacilli entering at the nose, naso-pharynx, pharynx (the usual situation), or larynx. The secondary symptoms are due to the absorption of the toxines. Scarlet fever may have its origin from a wound of the nasal mucous membrane. He is of the opinion that there is much to be said in favor of the view that tonsillitis is a primary infective disease of the lacunæ; and that rheumatic fever is a secondary disease, arising from the absorption of the microbes, or their products, into the system. He emphasizes the importance of careful treatment of even slight tonsillar affections in view of the danger of systematic infection. Septicæmia, pyæmia and erysipelas are shown to be diseases which certainly enter the system in many cases through the upper respiratory tract. The occurrence of primary tuberculosis of the nose, pharnyx and larynx and the recognition of latent tuberculosisof the tonsils, both faucial and pharyngeal, point to the possibliity of the tubercle bacillus entering the system via. the upper respiratory tract. Syphlitic infection through primary sores in the nose, naso-pharynx, pharynx and larynx are mentioned.

Dr. Jobson Horne deals mainly with three points; Firstly, that the upper respiratory tract is more frequently than is generally stated the site of primary infection for systemic diseases other than those commonly assigned to it, and that a more routine examination of the region should be made in the clinical investigation of diseases of obscure origin; secondly, that the region is not only a site of infection, but is also a factor in modifying, or arresting infection; lastly, the surgical treatment of such diseases is considered with reference to the foregoing. By way of illustrating these points, the following diseases are more especially mentioned: Infective endocarditis, tuberculosis, lymphadenomal (Hodgkins' disease), and lympho-sarcoma.—*Jour. Laryngology.*

EXPECTORATION OF A TOOTH THIRTEEN MONTHS AFTER INHALATION INTO THE LUNGS.

W. E. Dickson relates an interesting case in the *Lancet*, February 28. The patient had twelve stumps removed from the upper jaw on two consecutive days, under gas. After the second day's operation, the patient had a slight feeling of uneasiness behind the sternum. A month later he developed influenza, and suffered from aphonia for some days. Two months later he had an attack of pleurisy. Following this he was much troubled with cough, expectoration, hæmoptysis, and, in short, many of the symptoms of phthisis for which he was treated, though tubercle bacilli were not found in the sputum. Finally, while lying quietly in bed, he felt a "sort of obstruction" in the chest, and coughed up a large mouthful of red-clotted blood. In this he felt something hard, which proved to be the fang of an upper molar.

DIONINE IN CORNEAL AND CONJUNCTIVAL DISEASES.

At the January meeting of the San Francisco Eye, Ear and Throat Surgeons, the subject of cocaine poisoning was discussed. This lead to some remarks by Dr. Redmond Payne, *Opthalmic Record*, on the use of dionine. This preparation is a derivation of morphine, and has been used successfully as a substitute both for it and codeine as a general analgesic, the claim being that it has narcotic and sedative effects, without their disadvantages. In diseases of cornea and conjunctiva 4 and 7 per cent. solutions are used. Cocaine, hitherto the only remedy we have had for pain in these cases, if used continuously, produces a bad effect on the epithelium, thereby affecting nutritive process and repair. Moreover, cocaine produces only a temporary anæsthetic effect. Dionine, on the contrary, produces an analgesic effect lasting from 24 to 72 hours, and it has the additional advantage that it aids repair in cases of loss of epithelium, hastening the absorption of exudations. It is said to be contra-indicated in old people with arterio-sclerosis. It is a valuable analgesic but in no sense will it be satisfactory as a local anæsthetic.

A CASE OF LARYNGEAL FISTULA.

At the May meeting of the British Laryngological, Rhinological, and Otological Association, Dr. Kelson showed a case of laryngeal fistula the size of a florin, resulting from a cut throat six months previously. The wound had been made through the base of the epiglottis, just above the ventricular bands, which together with the vocal cords, were freely exposed. The patient was in fair health, but could only speak in an indistinct whisper, and was fed by means of a tube through the wound.

PROVINCE OF QUEBEC NEWS.

Conducted by MALCOLM MACKAY, B.A., M.D., Montreal.

The medical schools are again beginning to show signs of activity after the summer vacation, and by the time this is in press the session's work will be well commenced. The registrar at McGill University reports that the students are registering early, and that there are prospects of a large freshman year, notwithstanding the fact that the standard of the matriculation examination has been raised by the introduction of physics and chemistry. A number of changes and additions have been made to the teaching staff of the College. Dr. J. G. McCarthy has been appointed assistant professor in anatomy; Dr. J. G. Halsey, assistant professor in pharmacology; Dr. R. A. Kerry, lecturer in pharmacology; Dr S. R. Mackenzie, lecturer in clinical medicine; Dr. John McCrae, lecturer in pathology; Dr. D. R. Shirres lecturer in neuropathology and Dr. D. D. McTaggart, lecturer in medico-legal pathology. To the list of demonstrators have been added Drs. C. K. P. Henry and H. R. Pennoyer, assistant demonstrators in anatomy; Drs. W. L. Barlow and C. B. Keenan, assistant demonstrators of clinical surgery; Drs. G. K. Gunimer and W. H. Jamieson, assistant demonstrators in laryngology; Dr. D. Patrick, assistant demonstrator in gynæcology, and Drs. B. W. D. Gillies and C. A. Peters, assistant demonstrators in clinical medicine. Dr. H. Wolferston Thomas has resigned his fellowship in pathology to accept an offer from the School of tropical Medicine in Liverpool.

At Bishop's College, Dr. Deeks has resigned his lectureship and Dr. Hebbert has been added to the department of anatomy.

On September 27th, at Laval University, Quebec, the Provincial Medical Board of the College of Physicians and Surgeons of the Province of Quebec, held the examinations for admission to the study of medicine and on September 29th there met the credentials and examining committee for license, the semi-annual meeting of the Board being held on the thirtieth of September.

The Jeffery Hale Hospital, Quebec, has retained Dr. Carter as superintendent for another year. The hospital has recently been equipped with a large static machine and x-ray apparatus of the most approved pattern. The results obtained have been excellent, and the

instrument has proved a valuable addition in both medical and surgical departments. The staff has had a very busy summer owing to the large number of sailors seeking treatment at the institution. The prevalence of trachoma among a certain class of the immigrants has been so great that a special ward has been required continuously throughout the summer months for these cases.

At the regular meeting of the St. Francis Medical Association at Sherbrooke a motion was carried favouring the reduction of the board of governors in the College of Physicians and Surgeons from 43 to 25, the reduction to be from the representatives of the various universities of the Province. At present each university is entitled to have two members on the board. The following officers were elected: President, Dr. L. C. Bachand, Sherbrooke; first Vice-President, Dr. J. McCabe, Windsor Mills; second Vice President, Dr. A. G. Beique, Magog; Secretary, F. A. Gadbois, Sherbrooke; Asst. Sec., Dr. E. J. Williams, Sherbrooke; Council, Drs. Farwell, Austin and Cameron, Sherbrooke.

There is every prospect that the work in connection with the new children's hospital at Montreal will be commenced shortly. Temporary accommodation is being sought for at present, in order that the general hospitals of the city may be relieved of a number of chronic cases. The substantial grant bequeathed by the late Mr. James Cooper has insured the early completion of the new building, which has been planned for the accommodation of twenty patients. Two wards containing seven beds each, and six rooms with one bed each, will be placed on the main floor which will also have two large veranbahs, while the second floor will contain a large solarium and an operating room. The administration department will be on the ground floor together with the nurses' dining-room.

There were about 800 medical students in attendance at McGill, Laval and Bishops Medical Colleges last session. It is expected that the number will be considerably larger this session. The facilities for study have, within recent years, been greatly improved. The opportunities for clinical study are exceptionally good. The Royal Victoria has accommodation for 300 patients; the Montreal General Hospital, for 250; The Hotel Dieu, for 250; and the Notre Dame, for 150. In addition to the above, there are some special hospitals and a maternity hospital.

The sessional expenses amount to some $400. The fees at McGill are $125; board for the session of eight months is about $160; and books, special fees, and incidental outlays will be about $125.

MEDICAL SOCIETIES AND GATHERINGS.

THE CANADIAN MEDICAL ASSOCIATION.

Tuesday, 25th August.

The 36th annual meeting of the Canadian Medical Association was held in London, Ont., August 25th, 26th, 27th and 28th.

The President, Dr. Moorhouse, opened the meeting. The secretary, Dr. George Elliott, read the annual report. The previous meeting was held in Montreal, September, 16, 17, 18 and 19, 1902. When there were 329 in attendance, of whom 113 were new members. Dr. George Hodge, of London, reported for the committee on business:

The attendance at this meeting was very gratifying, nearly three hundred registering, and was the second largest meeting in the history of the Association. The meetings were held in the London Normal School, which is admirably adapted for such a gathering

In the museum of pathology there was an interesting an instructive exhibit of gross and microscopic specimens.

The Surgical Treatment of Hallux Valgus and Bunion.

James Newell, M.D., of Watford, remarked in his paper that the term Hallux Valgus implies abduction of the great toe, the extent varying, but usually being marked. By bunion is meant the swelling and hypertrophy of the tissues over the internal aspect of the metatarsophalangeal articulation of the great toe; and is extended so as to include the hypertrophied head of the metatarsal bone, and the overgrown base of the first phalanx. The usual cause is ill-fitting boots.

The head of the first metatarsal bone is uncovered and there is an outward dislocation of the base of the phalanx, causing swelling and hypertrophy of the tissues and often a false bursa. The extensor propius pollicis tendon is displaced outward.

Palliative treatment is not followed by permanent benefit. It includes straight shoes, roomy at the toes; a sock with a finger for great toe; a wad of cotton between the toes; and various mechanical contrivances.

In the radical operation there should be thorough asepsis. An incision, two to three inches long, is made on the inner side of the big toe with its centre over the bunion. Excise the false bursa, if present, without allowing the escape of its contents. Deepen the incision and

separate the tissues from the bone. Open the joint fully, dividing the ligaments, and turn the great toe outward, exposing the head of the metatarsal bone. Insert a metacarpal saw and divide the bone just behind the articular cartilage, sawing through obliquely from above downwards and backwards. With the bone forceps trim off the sharp edges and remove any exostoses. Wash out the wound and stitch with silk-worm gut. Place a pad of cotton between the great and second toes and apply a sheet-iron splint on the sole, with a piece turned up between the same two toes. Remove the stitches in ten days and begin passive motion in two or three weeks. Remove the splint at the end of a month. The final result of this operation leaves nothing to be desired.

Inguinal Hernia of Undeveloped Uterus.

Dr. R. Ferguson, London, presented a specimen of inguinal hernia of the undeveloped uterus and appendages. The patient, Mrs. A. B., 32 years of age, married six years, consulted him on March 20th for violent attacks of temporal headache, lasting 24 hours and accompanied by pain and vomiting, recurring every four to six weeks. The health between the attacks was perfect. There were no subjective pelvic symptoms noticed. At seven years of age an inguinal hernia of the left side occurred, which disappeared on lying down. The vagina was, on examination, found to be a *cul-de-sac*, the cervix being absent. By bi-manual examination the uterus and appendages appeared absent, but a tumor was felt on the left side.

A median incision was made, but the uterus and appendages could not be seen. This was closed and an incision made over the tumor. In the sac were found the ovaries and imperfectly developed uterus. The pediele was ligated and transfixed, the base returned to the pelvic cavity, and the operation completed as an ordinary Bassini. The recovery was complete and the headaches ceased. The mammæ and labia were normal.

Post-Nasal Discharges.

Perry G. Goldsmith, Belleville, read a paper on the causes and treatment of post-nasal discharge. This paper will appear in a future issue.

The Address in Medicine.

Dr. H. A. McCallum, London, gave the address in medicine. He chose for his subject "Lymphatic Circulation in Modern Medicine." See page 114 for this address.

Division into Sections.

Dr. A. B. Atherton, of Fredericton, N.B., was appointed chairnan of the Surgical Section, and Dr. Bruce Smith, of Brockville, chairman of the Medical Section.

Medical Section.

Disseminated Sclerosis.

Dr. Hodge, (London), presented a case of disseminated sclerosis for examination. The patient was 22 years of age. In August, 1898, after a long bicycle ride, fell into the water. He was seen in October, when there were found an apical systolic murmur, loss of knee-jerk, legs weak, and brought down with a stamp. In May, 1899, he was stronger, knee-jerks were present, but the hands were numb. In June, 1899, the walking was improved, and could ride his bicycle, pain, temperature and muscular sensation normal; no inco-ordination. Improvement continued, until July, 1901, when he had difficulty in walking, increased knee-jerks, but no ankle-clonus, or muscular wasting. The sensory functions were normal, but he was constipated; and there was hesitancy in micturition. Feb., 1903, he was unable to stand alone, knee-jerks increased, as were the supinator and triceps jerks. Babinski's sign was present, speech thickened, but there was no ankle-clonus, no nystagmus, nor cranial nerve disturbance. Aug., 1903, the symptoms remained unchanged.

A second case was presented for diagnosis. The patient, aged 60, female, about ten years ago complained of feeling old, and noticed that she was continually dropping things. She had numbness of the soles of the feet, which still persists. An examination reveals the following conditions: grasp weak, left arm and leg weaker than right, supinator jerk increased on both sides, triceps jerk increased, exaggerated knee-jerk. No ankle-clonus and no cranial nerve involvement.

Treatment of Typhoid Fever.

Dr. W. P. Caven, Toronto, opened the discussion, and divided his treatment into dietetic and medicinal.

(*A*) *Dietetic.* Milk is the standby. It is theoretically ideal and clinically the best. It may be diluted with vichy or lime water, or flavored with tea or coffee. Peptonized, it may be of service. The amount required is three to four pints in the twenty-four hours, given every two or three hours, with longer intervals at night, or in mild cases. To limit the destruction of body proteids, he believed that a certain amount of carbohydrates and fats were necessary, given as mucilaginous drink of oat-meal or tapioca; and albumin-water flavored with lemon or orange juice. He advised drinking plenty of plain water. Alcohol is required in cases where systemic weakness is present, with dry tongue, subsultus tendinum and marked insomnia.

(*B*) *Medicinal.* (1) Prophylactic. He quoted statistics, proving the good results obtained from artificial immunity, as shown by the results in the South African war.

(2) Antipyretics. The use of drugs is becoming less common. He believed in the Brandt method, as it not only reduced temperature but acted as a general tonic. It was limited to hospital work and selected cases; and was contra-indicated in myocarditis, pericarditis, intestinal hæmorrhage and in old people. In all cases, he used tepid sponging morning and evening; and, in extreme cases of high temperature, the cold pack or tub.

(3) Antiseptics. Calomel was not a specific, but it limits microbial growths and minimizes toxic absorption. Salol and B. napthol are useful.

For intestinal hæmorrhage, he found morphia useful, and intercellular, or intravenous, injections of normal saline solution were often helpful. In some cases, he thought gelatine solution could be used with benefit. For tympantis there were two remedies: Turpentine, m.x., in repeated doses, and asafœtida, used as an enema. He had seen relief by the rectal tube.

Dr. J. Herald, Kingston, continued the discussion. He stated that there was no specific treatment, and the disease must be guided rather than cured. He had obtained good results from hydrotherapy, but it sometimes caused shock. In neurotic cases, he sponges with dilute alcohol, which is followed by fanning to hasten evaporation.

Milk was his standby, but he gives other easily digested foods, as extracts of beef, unless in cases of severe diarrhœa.

His medicinal treatment was mainly symptomatic. In tympanites, he used turpentine externally, by the mouth or by the rectum; or subgallate of bismuth, in ten grain doses.

He would avoid alcohol at the beginning, but believes, at times, it is the best drug. Indications for it are a dry brown tongue, a low muttering delirium, and a failing heart. In hæmorrhage, he enjoined absolute rest, mental and physical, the administration of morphia hypodermically and the application of an ice-pack over the region of Peyer's patches.

Dr. J. Hunter, Toronto, related cases where high rectal enemata of saline solution were successful in controlling high temperature.

Dr. H. A. McCallum, London, believed in the cold bath treatment, accompanied with friction. He used a modified form of tubbing by placing a rubber sheet on the bed and pouring water over the patient. He believed in purgation during the first ten days, and the use of strychnia, given throughout the attack, to whip up the vital activities.

Dr. Caven closed the discussion by warning against the cold tub in certain cases.

Intoxication in Appendicitis.

Dr. E. Hornibrook, Cherokee, Iowa, took for his text the above subject. The paper appeared in our September issue.

Dr. DeWitt, of Wolfville Nova Scotia, in discussion said that he used enemas of salines or boracic acid, and calomel or olive oil internally. He believed that intoxication played a great part in appendicitis.

Dr. Hornibrook closed the discussion by saying that appendicitis was neither a medical nor a surgical disease, and that cases, going on to perforation and gangrene, could not be anticipated.

The Size of the Pupil as an Aid to Diagnosis.

Dr. J. T. Duncan, Toronto, read a paper on the above subject, which appears in this issue of The Canada Lancet, page 151.

The Physiological Generative Cycle of Woman.

Dr. Jennie Drennan, St. Thomas, read a paper on this subject. She stated that adaptation and heredity are the two factors which cause the changes wrought by evolution. If the environment be a good one, the adaptation to it improves the animal; and it is wise that the results of such adaptation be handed down. The physiological generative cycle is comprised of three factors, ovulation, pregnancy and lactation, which follow in physiological sequence. This is the natural order in mammalia, but in the human female it is accompanied by a lesser cycle, a monthly one, ovulation and menstruation. This lesser cycle is a pathological condition due to the habits of civilization. Every menstruation is a disappointed pregnancy, and it does not occur in other forms of mammals, except in a few anthropoid apes living in captivity. As the larger cycle of ovulation, pregnancy and lactation would occupy about three years, we find that in primitive races families are never large.

Diseases of the Nose and Throat.

Dr. J. Hunter, Toronto, read a paper entitled "The Medical Treatment of Diseases of the Nose and Throat."

He believed in adapting the same principles of treatment as in other forms of disease. It was imperative to examine the patient carefully. Acute and chronic inflammation were the most common conditions met with. As regards general treatment, we should endeavor to remove morbid products by diet and elimination. He advised a cold bath in the morning with brisk rubbing, followed by some simple form of gymnastic

exercise. Sunshine and pure air are of great service. Locally we should endeavor to remove morbid conditions and secretions by the nasal douche, first making sure that there is no obstruction to return flow, then holding vessel on level with nostril and gradually raising it a few inches. He used an alkaline solution of potassium or sodum bicarbonate and astringents as Listerine or hydrastis. After cleansing the field, the application of chromic acid or galvano-cautery was sometimes useful. He insisted on regular treatment. In laryngeal cases, inhalation of medicinal vapors is valuable.

In discussing the paper, Dr. Price Brown, agreed that the general practitioner should pay more attention to the care of the nose and throat. He did not approve of the bath in all cases. Tonsillitis demands immediate elimination. Hay fever occurs in sedentary persons and he had found hard labor curative. He warned the profession against the frequent use of the electric cautery.

Surgical Sections.

REPORT OF TWO CASES OF HOUR-GLASS CONTRACTION OF THE STOMACH.

H. Howitt, M.D., M.R.C.S., Guelph, referred to his statement made at the last meeting of the American Association of Obstetricians and Gynaecologists, that he believed that the time will come when operations on the stomach will become as frequent as they are now for appendicitis. This, he said, was still his belief. The rush after gold and our present economic conditions and methods of education was the cause of the great increase in the number of cases of stomach disease that now come under the care of the general practitioner.

The term dyspepsia, as used at present, is a generic one, and includes several affections which await a more perfect skill in diagnosis before the different conditions can be recognized.

Excluding tumors and all other diseases of the organ that can be diagnosed by touch, or by the symptoms as being due to organic changes, quite a percentage of the remainder are caused by gross changes in or about the stomach, which affect the function of the muscular coat. A cicatrix, a slight constriction, a perigastric band, or adhesion between the wall and adjacent parts may exist and do serious damage to this important function without being detected. Hence what may be called mechanical interference with the normal movements of the stomach plays a far more important part in gastric complications than is generally supposed. The chief of these causes is "gastric ulcer." According to Leube, from one-half to three-fourths of all recent cases of gastric ulcer can be cured in three to four weeks by judicious treatment. If not cured in

that time they were not curable by medical treatment alone. The speaker believed that, with few exceptions, cases where the "succusion splash" was present over a largish area four or five hours after taking food were subjects for surgical treatment. He expressed the hope that the time will not be far distant when the diagnosis and the surgical treatment of gastric ulcer will have developed so far that cancer, as secondary to ulcer will be considered a stigma on the profession in the community in which it occurs. Of the two cases which he reported of "hour-glass contraction of the stomach," one was complicated by an ulcer on the posterior wall, and the other by cancer. The previous history of each pointed to gastric ulcer.

CASE I. Miss J. S., aet 36, tall and emaciated; weight 120 lbs. intelligent and of pleasing address; family history good. Previous history—Until 23 years had excellent health. Thirteen years ago took, while fasting, a large dose of concentrated solution of Epsom salts; this was soon followed by gastric distress, with distention. This continued several weeks, and she vomited blood on one or two occasions. After this, seldom free from distress, and attacks became more frequent and severe; was treated in many ways, uterus curetted and ovariotomy advised. Most consistent symptoms during last three years were pain in epigastric region, great distention of stomach and distress in breathing, coming on after food. Vomiting was not prominent and, when stomach was empty, pain was not severe. During later months, every two or three days she had a gastric crisis, in which the stomach became greatly distended and pain very severe. Admitted to Guelph Hospital, July 29, 1901. Examination showed a tender spot a little below and to left of crusiform cartilage; deep pressure caused pain which radiated to back. "Succusion splash" present. She was put in bed on restricted diet. She would not consent to an operation at this time and shortly left the hospital. Aug. 17 she returned and was prepared for operation.

Operation: After lavage of the stomach, ether was administered. A medium incision was made from near ensiform cartilage to unbilicus; the stomach was brought as far out of the wound as possible. No adhesions were found; the pylorus was normal; and situated a little nearer the pylorus than the cardiac orifice was an organic, circular contraction of the organ. It was quite firm, about an inch and a quarter in width, with a diameter the size of a broom handle.

A peristaltic wave was noticed which moved from the cardiac end to near the stricture where it remained a few seconds, and then gradually relaxed. It never crossed over to the pyloric end.

Owing to the situation of the constriction, the absence of adhesions and the fact that there was no abnormal condition of the pylorus, gas-

troplasty was determined on. Through an incision in the pyloric pouch, it was ascertained that the orifice, connecting the two pouches, would hardly admit the point of little finger. The incision was extended transversely across the contracted part and, when completed, was five inches in length. A round ulcer was formed on the posterior wall of the cardiac portion close to the constriction. Its floor was scraped, edges pared and mucous membrane closed over it by fine catgut sutures. Now, opposite edges of incision were grasped at their middle, and these points separated as far as possible. Thus the direction of the incision was now at right angles to its former one; it was closed with three rows of fine silk sutures. The abdominal wound was closed without drainage.

She made an excellent complete recovery and left the hospital one month later. When last heard of she was in perfect health.

Case II, R. M.—Presented all the symptoms of malignant obstruction of the pylorus.

An operation to relieve the conditions was decided on; and, on exposing the stomach, it was found to be divided into two pouches by a tight constriction, situated somewhat nearer the pyloric than the cardiac end. The contracted portion was hard and nodular, and several nodules were noticed in the wall of the organ and along the lesser curvature. A gastro-enterostomy was performed; the cardiac pouch being united to the jejunum. He made a good recovery, and in two weeks could take food by the mouth. He left the hospital in about a month, and until a week before his death, which occurred eleven months later, he was able to take an ordinary amount of food with considerable comfort.

Dr. A. H. Ferguson, of Chicago, and Dr. Hadley Williams, of London, took part in the discussion of the paper.

Surgical Treatment of Typhoid Perforation of the Bowel.

Dr. J. Alex. Hutchison, Montreal, reported four cases, operated on in Montreal General Hospital up to May, 1902, with fatal result in all.

Case V. Male. Age, 33. Alcoholic Ambulatory Typhoid. Admitted to hospital December 30th, 1902. On 12th day of disease temperature 104°. Perforation on 13th day. At 3 a.m. patient developed severe abdominal pain on right side with rapid fall of temperature and increased pulse rate, with vomiting and diarrhœa, tenderness and rigidity in right iliac fossa.

Operation within two hours. Free sero-purulent fluid and fæces found in the peritoneal cavity. A large ulcer found in ileum, near valve, involving nearly the whole circumference of the gut, with pinhole opening in centre.

Bacteriological examination showed mixed infection.

A few hours after the operation, abdominal symptoms had disappeared and, during following three weeks, the case ran a typical typhoid fever course, developing rose spots and enlarged spleen. Widal reaction present.

Operative technique. Ether was administered, and an oblique lateral incision was made. The ulcer was folded in and Lembert sutures of silk inserted; the peritoneal cavity irrigated with saline solution, and abdomen closed, drainage tube being left and clamped to retain saline solution within abdominal cavity.

Four or five ice bags were applied to the abdomen for first few days. Good recovery.

Dr. H. Meek, London, Dr. Powell, Dr. Olmsted, Dr. Secord, Dr. Atherton took part in the discussion.

Gunshot Wound of Upper Arm.

Dr. Hadley Williams, London, reported the case of a patient, age 22, who, on 20th November, 1901, received a lacerated wound of right upper arm from a breech loading gun, the muzzle being but a few inches from the inner side, midway between axilla and elbow. Examination, four months later, showed an un-united fracture of humerus, about centre, with 1½ in. shortening, a discharging sinus, and typical musculo-spinal paralysis. This paper will be published in an early issue.

Dr. J. Wishart, London, R. A Powell, H. Howitt, A. H. Ferguson, A. B. Atherton, and E. R. Secord discussed the case.

Operation in Hip Joint Disease Without Shortening.

Dr. R. Preston Robinson, Ottawa, introduced this subject. In tubercular disease of the hip joint, with abcess formation, we may have involved the head of the femur, the great trochanter, the lesser trochanter, and the shaft.

Case I. Girl, 4½ years, tubercular family history. Had acute spinal meningitis in infancy, and manifestations of scrofula since. The usual symptoms were noted, September, 1902. Extension was used but in January, 1903, the limb was shortened, flexed, adducted and immovable, and a large abcess was present.

Operation, February 3rd, 1903. The incision on outer side, below great trochanter, released a pint of pus, and the dead bone was curetted from head, neck, shaft and acetabulum, taking care to preserve all the shreds of periosteum, and pulling it back over sound bone for ½ inch. This denuded half inch was excised. The leg was extended and the shreds of periosteum were stitched to periosteum, covering ileum. The

muscles and fibrous tissue were stitched with catgut. The wound was filled with gauze and allowed to granulate. The leg was extended and 15 lb. weight applied; extension was kept up for four months. Passive motion was begun in second week. The patient was able to walk on August 1st, the movement is perfect, and the shortening only $\frac{1}{8}$ inch. He attributes the good results to the formation of new bone by the periosteum.

CASE II. Female, age 17, tubercular diathesis; advanced symptoms of hip joint disease. Saw case October, 1902. Extension and systemic treatment failed. Incision, as in case I. Disease involved great trochanter, head, neck, and shaft. The capsule was opened, the head removed and the periosteum preserved as in case I. The treatment and result similar to case I. Photographs and skiographs were exhibited.

The principal points to emphasize are: (1) Thoroughly clean away diseased bone; (2) preserve periosteum and stitch it to margin of acetabulum; (3) stitch muscles and fibrous tissue over periosteum; (4) weight and extension for four months; (5) let wound granulate; (6) let patient sit up in bed in two weeks but not walk for six months.

Dr. James Newell, H. A. Ferguson, Chicago, discussed the paper.

General Evening Session.

PRESIDENT'S ADDRESS.

Dr. W. H. Moorhouse, London, delivered his presidential address. See September issue of THE CANADA LANCET.

EYESTRAIN AND THE LITERARY LIFE.

Geo. M. Gould, Philadelphia, read his paper on the above subject. See page 124.

THE OPEN AIR TREATMENT OF TUBERCULOSIS.

Dr. J. H. Elliott, Gravenhurst, delivered a very interesting lantern lecture on the open air treatment of tuberculosis. He described sanatoria in several different countries, and more particularly the one at Gravenhurst.

MUNICIPAL SANITARIA FOR CONSUMPTIVES.

A paper was read on "Municipal Sanatoria for Consumptives" by E. J. Barrick, Toronto.

Wednesday, 26th August.

Surgical Section.

The public operating theatre at the Victoria Hospital, was crowded by over one hundred physicians. Dr. A. H. Ferguson, of Chicago, first removed a cystic adenoma of thyroid gland in a woman, age 46. He

made a transverse incision, split the muscles vertically, and enucleated. Gauze was inserted on account of free oozing.

The next case was a left ingiunal hernia, on which he used his own method, demonstrating each step by explanatory remarks.

Dr. McGraw, Detroit, demonstrated his method of performing gastro-enterostomy by the elastic ligature on two cases of gastric carcinoma. Whereas, formerly, the needle and ligature were separate, they can now be obtained fastened together by an improved method, which assists materially its passage through the alimentary walls. He said that gastro-enterostomy was devoid of risk, and most successful as far as the operation was concerned, easy of performance and without loss of time. The deaths attributable to it were not due to the method, but on account of the fact that the patients came too late for treatment.

In one of the cases, the malignant disease had progressed too far for the ligature to be successfully placed.

At St. Joseph's Hospital. Dr. John Wishart performed a Halsted operation.

Unreduced Dislocation of Elbow.

Dr. John Wishart, of London, showed a case of unreduced dislocation of the elbow in a man, 19 years of age, who had been injured six weeks before coming under his notice. The arm at that time was in extension, and flexion was impossible. After various methods had been tried, including attempts at forcible reduction with pulleys, reduction was accomplished by open incision. The lower end of the humerus (supra-condyloid) was complicated by a fracture. He did not know whether this occurred at the time of the injury, or was due to attempts at reduction.

The arm was now in position and excellent movement was shown to have been obtained.

Dr. McGraw, of Detroit, Dr. Eccles, of London, and others spoke of the rarity of the operation and congratulated Dr. Wishart.

Malignant Tumor of Neck.

Dr. Hadley Williams, London, presented a man, age 62, from whom he removed, five weeks before, a large tumor of malignant growth from the neck, together with the entire sterno-mastoid muscle and three inches of the internal jugular vein. He then cleaned out the submaxillary triangle and tied the lingual artery preparatory to excising half the tongue. The patient had in no way suffered from excision of the vein, either during, or since the operation.

Tumor of Brain.

Dr. Wishart reported a case of brain tumor. Male, aet 67, abstainer, previous health good, active business life. Sept., 1901, fell on head at height of eight feet. Recovered in a week. Dec., 1901, had an attack of tremors and spasms, beginning in the thigh of left side and extending to leg. Attack lasted five minutes. Similar slight attack in Jan., 1902. April, 1902, had severe attack and whole left side convulsed. A less severe attack in Aug. There were attacks in Sept. and Oct., during which he lost consciousness, and mind did not recover. He became confined to bed and lost flesh. Nov. 3, 1902, saw patient in consultation. Speech was perfect, but memory deficient. Involuntary micturition, knee-jerk increase and ankle-clonus on left side, Babinsky's sign not present, pupils equal and respond to light, discs normal, no paralysis, headache or vomiting, but emaciation, pulse 89, temp. 99°, urine normal.

Operation. Right side of skull trephined over leg centre; the dura was incised and a tumor half an inch in diameter removed (psammoma). Recovery slow, but by Jan. 1, 1903, his mind was clear. Feb. 17, spasm of leg.

During summer, became weaker and suffered from constipation and insomnia. Aug. 11, unable to take food. Mind remained clear, but death took place Aug. 20, from inanition.

Alexander's Operation.

Dr. H. Meek, of London, gave his personal experiences with Alexander's Operation for Retroversion of the Uterus. He considered:— I. The class suitable for operation. II. The advantages of this over other methods of treatment, and III. Results.

Cases Suitable for Operation. (*a*) Simple, uncomplicated retroversion with free mobility of organs; (*b*) Some cases complicated by disease of appendages, non suppurative, and where adhesions are not too dense. Cases with much fixation of the parts or cases of suppurative disease are better treated by abdominal incision.

Advantages of Alexander's Operation. Treatment by pressary is simply palliative; it can never be worn comfortably for any length of time; it may become misplaced and cause ulceration of mucous membrane of vagina; it may be a factor in causing infection of uterus and appendages. Over the operation of ventro-suspension it has the advantage of less risk, as it has also over shortening the ligaments after abdominal section. It is also safer than shortening the ligaments through the vaginal route.

Results. No deaths in over 200 operations. In suitable cases there has been no recurrence of symptoms. In earlier cases and in some un-

suitable ones there was amelioration of the symptoms for a considerable period. In cases where pregnancy has taken place, there have been good recoveries and the trouble has not returned.

Thrombosis of the Femoral Vein.

Dr. E. R. Secord, Brantford, reported an interesting case of double ingiunal hernia on which he had operated. The wounds remained aseptic throughout, but thrombosis of the saphenous vein appeared. This paper will appear in an early issue.

Medical Section.

The Country Doctor.

D. J. S. Sprague, Stirling, read an interesting paper on this subject. It will appear in an early number.

Drs. Mitchell, of Toronto, Mann, of Renfrew, Mitchell, of Kilworth, Hunter, of Toronto, Butler, of Alma, Mich., participated in the discussion.

Fresh Air Versus Disease.

Dr. G. E. DeWitt, Wolfville (Nova Scotia), spoke of the increased sanitation of the present day, brought about by the profession, and mentioned open air sanatoria for consumptives. Pure air is very essential to the sick. He said that it imparted vigor to the patient and stimulated the vital forces, so that the resisting power of the body destroyed the germs, for example tubercle bacilli; and is valuable, especially in convalescence from fevers and in some cases of rheumatism. He cited illustrative cases.

Sir James Grant congratulated Dr. DeWitt on the practical nature of his paper. Dr. Aylesworth, Collingwood, and Dr. Johnston, Toronto, also spoke on the subject.

Inter-Relation of Diabetes and Other Constitutional Diseases.

Dr. Butler, Alma (Mich.), read a paper on this topic. See page 147.

In the discussion Sir James Grant spoke of our lack of knowledge regarding sugar in the system and eulogized the work of Bernard. Dr. Gould, Philadelphia, warned against the confusion of glycosuria with diabetes proper, and spoke of the need of the medical profession taking up the question of diabetic bread and flour.

Moved by Dr. Aylesworth and seconded by Dr. Hodge, that a vote of thanks be tendered Dr. Butler.

Dr. McCallum presented a case of adherent pericardium. Dr. Dickson, Toronto, gave an instructive exhibition on the use and application of the Finsen Light. Dr. McPhedran, Toronto, presented an interesting

case of amyotrophic lateral sclerosis. Dr. Hodge presented two cases of muscular dystrophy for examination by the Section.

Multiple Visceral Lesions.

Dr. Benedict, Buffalo, read an interesting paper dealing with this topic.

Cardiac Complications in Influenza.

Dr. E. G. Wood, Nashville, Tenn., discussed very fully this important subject. This paper will appear in the Canada Lancet.

The Relation Between the General Practitioner and the Specialist in Regard to the Treatment of Intra-Nasal Disease.

Dr. J. Price-Brown, of Toronto, read a paper on the above subject. This paper will be published in our next issue.

General Session.

Address in Surgery.

Dr. A. H. Ferguson, of Chicago, delivered the address in surgery, which appears in this issue. Dr. Samson, of Windsor, and Mr. I. H. Cameron, of Toronto, moved and seconded in felicitous terms a vote of thanks.

The local committee had arranged for a trip to Springbank, London's riverside park. Shortly after four o'clock one of His Majesty's bugler's appeared and blew a retreat. This was the signal that the special cars had arrived. The party were taken to the park where some historic points on the Thames were pointed out. Much interest was shown in the spot where the ill-fated "Victoria" went over in 1881, when 181 people lost their lives.

On return from Springbank, a trip was made over some of the city lines giving the visitors a glance of London's pretty streets and boulevards.

Special cars took the lady visitors and their friends to "The Kennels," where the ladies of London gave an informal reception.

At 7 p. m. all repaired to the London Asylum for the Insane where Dr. McCallum and his staff, aided by the local committee, gave a banquet. Among the speakers was Sir James Grant who delivered a very eloquent address.

Thursday, Aug. 27.

The Association had consented to be the guests of Parke, Davis & Co. for the whole day. At 8 a.m. a special vestibule train left for

Walkerville where they were shown through the Canadian Branch. They were then taken aboard the steamer "Owana" and given a five hours trip on the Detroit River. The 21st battalion band of Windsor provided music, and lunch was served on board.

At 3.30 p.m. the party arrived at the Detroit Branch where they were conducted by special guides through the whole of the interesting establishment. Later, a trolley ride around the city was enjoyed, ending with a banquet at the Russel House. Among the speakers at the banquet was Mayor Mayberry of Detroit, who extended to them a hearty welcome. An excellent concert was also given. The members were then returned to London by special train.

General Session.

Friday, Aug. 28.

Many new members were elected. The reports of committees were received and adopted.

A committee was appointed to ask the British Medical Association to meet in Toronto in 1905. It was decided to hold the next annual meeting at Vancouver, B.C.

Dr. Elliot read over the names of about 30 candidates for membership. These were all unanimously elected.

Dr. Powell, of Ottawa, submitted the report of the Nominating Committee which recommended the following be the officers for the ensuing year: President, Dr. S. J. Tunstall, Vancouver, B.C. Vice-Presidents: Dr. S. R. Jenkins, Charlottetown, P.E.I.; Dr. De Witt, Wolfville, N.S.; Dr. Blair, St. Stephens, N.B.; Dr. F. G. Finlay, Montreal, Que.; Dr. Alex. McPhedran, Toronto, Ont.; Dr. J. A. McArthur, Winnipeg, Man.; T. E. Patrick, Yorkton, Assa., N.W.T.; R. L. Fraser, Victoria, B.C. Provincial Secretaries: A. E. Douglas, Hunter River, P.E.I.; C. D. Murray, Halifax, N.S.; —. Crawford, St. Johns, N.B.; A. McPhail, Montreal, Que.; Ingersoll Olmstead, Hamilton, Ont.; Wm. Rogers, Winnipeg, Man.; —. Low, Regina, N.W.T.; W. Brighton-Jack, Vancouver, B.C. General Secreary, Dr. George Elliott, Toronto, re-elected. Treasurer, Dr. A. B. Small, Ottawa, re-elected. Executive Committee: W. J. McGuigan, Dr. Le Fevre, Vancouver; Dr. J. Gibbs, Victoria.

The report of the nominating committee was unanimously adopted.

Dr. A. B. Powell, Ottawa, asked permission to read the report of the Canadian Medical Defense Association. Its work was heartily approved by the meeting.

The general secretary was unanimously voted the usual honorarium for his services.

Dr. Rice, Woodstock, seconded by Dr. Harrison, Selkirk, moved that the thanks of the Association be conveyed to the Govenors of the Normal School, Mr. John Dearness was especially mentioned.

On motion of Dr. Aylesworth, Collingwood, seconded by Dr. Hutchinson, Dr. McCallum and the Asylum staff were thanked for their kindness on the occasion of the banquet given to the members of the Association on Wednesday evening.

The meeting also voted its thanks to the profession of the city and to the ladies of the city of London for their entertainment of the visiting ladies.

Dr. Moorhouse, the retiring President, was warmly thanked for the able, tactful and genial manner in which he had fulfilled his duties.

The presidents of the Medical and Surgical Sections, and the General Secretary and Treasurer, were also thanked for their able services. The railway companies were also thanked.

Dr. Riordan, Toronto, thought that the Association would be justified in asking the Dominion Government for financial aid for the next meeting which is to be held on the Pacific coast for the first time. The following were appointed a committee to wait upon the Government: Dr. Armstrong, Montreal; Dr. Le Fevre, Vancouver; Dr. Adam Wright, Toronto; Dr. Powell, Ottawa; Dr. Roddick, Montreal; Dr. Borden, N.S., and Dr. Riordan, Toronto.

The Convention will meet two days in Vancouver and two days in Victoria.

Dr. Riordan suggested that a committee be appointed with the view of getting a better rate than $62, and also any other concessions which might be reasonably granted by the railway companies.

Dr. Armstrong, Montreal, was asked to wait upon Sir William Van Horne in the matter. Power was given him to add to his committee.

On the motion of Dr. Balfour, seconded by Dr. Powell, it was agreed to endorse the suggestion that a committee be formed in that city to invite the British Medical Association to hold their meeting there in 1905.

Owing to the illness of the acting treasurer, Dr. Robinson, of Ottawa, Dr. George Elliott, submitted the report.

At the end of last year's convention at Montreal there was a balance of $225; at the end of this session he predicted a balance of $400.

THE CANADA LANCET

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EDITORIAL.

THE THIRTY-SIXTH ANNUAL MEETING OF THE CANADIAN MEDICAL ASSOCIATION.

The annual gathering this year in London was the second largest in the history of the Association, being second only in numbers to the meeting in Montreal last year, but not in quality of papers, nor in the enjoyable nature of the entertainments. We had good hopes that our London friends would do full justice to themselves and the occasion; and we so expressed ourselves when, last year at Montreal, London was chosen as the place of meeting for this year. It is no easy task to arrange a high-class programme for such a gathering; and, when the London executive succeeded as it has done, all credit must be accorded to its members.

The entertainments were excellent, well arranged and carried out. The visiting ladies were taken charge of by the London ladies, and right royally received and entertained. The members of the association spent a very pleasant afternoon at Springbank and evening on the grounds of the London asylum, where they were the guests of the Ontario Government. This was, indeed, a graceful and proper act on the part of the government, and was some recognition of the great work which the medical profession is doing for the public by these annual gatherings, much of the time of which is spent in the study of questions of public utility. Through the kindness of Parke, Davis & Co., the members of the association were taken by special train to Walkerville, thence for a sail on the river to Detroit, in both places being shown through the establishments of this well-known firm. A banquet and a concert were also provided by the above company The members were then returned to London by special train, safe and sound, and well pleased with the day's outing.

The intellectual part of the gathering was a credit to the country. The papers showed great care in their preparation and a high state of medical and surgical attainment in the profession. It may be said, without running the risk of being accused of boasting, that the papers

compared well with those read at the national medical conventions of any country.

Of the long list of presidential addresses now standing to the credit of the association, Dr. Moorehouse's stands well to the front. It touched upon the value of such gatherings to the profession ; the ancient traditions that have been handed down to us, Dominion registration, medical literature, patent medicines, and the practitioner's duty to himself. On all of these topics his remarks were timely, and we feel will do good. The time is coming when we will have a national profession, and when Dominion registration will be an accomplished fact. We feel that all the provinces will yet agree to it. In the meantime, we commend what Dr. Moorehouse says on the subject. His words are along the line we have often urged, that the registration bill be so amended as to permit of its coming into force if five of the provinces agree to its terms. The others would come in as soon as they saw its good effects upon those accepting it.

On the question of patent medicines too much cannot be said. It should be made obligatory to publish the exact composition of all these preparations; and it should be made a fraudulent act to publish any testimonial that was not strictly true, or to make any claim for a preparation that could not be borne out.

Dr. A. H. Ferguson's address in surgery was all that was expected of him—a brilliant production. In a masterly way he outlined the progress that has been made and the pathway along which the leaders of the profession have travelled in effecting that progress. In well chosen phrases he also pointed out in what direction we must look for improvement in the future. The past is full of noble battles fought and won, while the future has set high before us the star of hope. His address embodied the spirit of Goethe when he said:—" Here is all fulness, ye brave, to reward you. Work and despair not."

The address in medicine by Dr. H. A. McCallum, was important for two reasons: it was able and it was on a subject to which too little attention has been paid. It is to be hoped that Dr. McCallum's address will have the effect of directing attention to the lymphatic circulation, and the role it plays in health and disease. Now that he has a position that brings much clinical material his way, we hope he will continue his studies upon this question, and that the profession will hear more from him on the lymphatic system.

The papers of Drs. Gould, McGraw, Wood, Butler and Hornibrook, though from the neighboring republic, were welcome additions to the proceedings of the association. But, after all, there is only one

country in medicine, there is no such thing as French medicine and Russian surgery and American gynæcology. Hippocrates wrote, not for Greece, but for us; Pirogoff toiled, not for Russia, but for mankind; Simpson gave chloroform, not to Edinburgh, but to the world; so of Lister, Pasteur, Behring, Koch, Jenner, McDowell, Beaumont.

The association goes next year to the far west, and we hope that the east will do her duty. Now that the next meeting has been sent beyond the Rockies, let those who have sent it there follow it and make it a grand success, the greatest meeting in the history of the association.

We wish the committees having the matter in hand every success. We would urge on the Dominion Government the justice of aiding the association in this move to the far west. The railways will, no doubt, act in a liberal spirit, and enable many to avail themselves of the advantages of attending the next meeting.

It is to be hoped the British Medical Association will accept the invitation to hold its 1905 meeting in Toronto. Its members will be made thrice welcome:—Welcome, because they are good fellows; welcome, because they are the exponents of the best that is to be found in modern medicine and surgery; and, welcome, because they are one with us, honoring the same King, obeying the same laws, and upholding the dignity of the same old flag. We quote two lines from an old poem, which we hope may prove true:—

> "'Now the west says to the east, 'Come over to me,'
> And the east says to the west, 'I shall visit thee.'"

THE PROFESSION OF MEDICINE.

The profession of medicine is both ancient and honourable. Hippocrates, Aesculapius, St. Luke, Galen, are worthy names to look back to, to inherit the traditions of, and in whose footsteps to follow; while many of Christ's most gracious acts were the curing of the sick, the healing of the maimed, the giving of sight to the blind, and the restoring of reason to the mentally deranged. Medicine, in the truest sense of the word, is a profession, using the word profession to mean that the doctor places honour before gain, the interests of his patient before his own, the discharge of his duty before his life. He stands on a par with the true soldier, who chooses the open breach and the opposing enemy with death, if need be, rather than safety in retreat with dishonour.

The profession of medicine is a learned profession. The range of its studies is wide, and its opportunities for culture, many. It is here that we need the finest application of chemistry and biology to the

practical uses of man; while the powers of observation, in the study of disease, have brought within their scope the richest fields of investigation. Much of the literature of medicine, in the English, French and German languages, is in the very best style, and should prove as excellent a model for study as the choicest works of Ruskin, Arnold, Burke, Emerson, Lowell. In the study of medical literature, the intellectual faculties find free play for the logical processes, for the acquisition of a rich and varied storehouse of ideas, and for the keenest discrimination between truth and error. Here we have the very essentials of a learned profession. Let us indulge in the hope that among the young men and women now engaged upon the study of medicine, some may be willing to give a bright example to others in paths yet untrodden, by taking the lead of their fellow citizens, through their strenuous efforts to advance their chosen calling, and to whom the words of Lucan may be justly applied—*clarum et venerabile nomen, gentibus, et multum nostræ quod proderat urbi.*

> "A name illustrious and revered by nations,
> And rich in blessings for his country's good."

But the profession of medicine is honourable and noble in another sense. Perhaps, no equal number of persons in the world is the repository for so many secrets of the life of the people, and the custodians of so much confidential knowledge. Notwithstanding the vast importance and number of these confidings and the great army of those in the possession of them, how rare a thing it is, indeed, to hear of an instance where this confidence has been betrayed! How universally and how honourably the oath of Hippocrates is observed! This has done much to gain for the medical profession the epithet "*noble.*" The true doctor will suffer much loss, and has been known to endure imprisonment, rather than divulge the professional secrets of, or break faith with, a patient. With a word, doctors could set rolling the apple of discord in families, between friends, and among neighbors; but instead of so doing they are ever found with the peace-makers, with those who are extending the olive branch in lieu of Pandora's box. Judged by the test *acta exteriora indicant interiora secreta*, medical practioners stand high, and well merit the disignation of "the noble profession."

In yet another way is the medical profession a noble one. Its aims are to save and prolong life, to lessen the total amount of suffering in the world, and to prevent disease and all its consequences, as far as it may be within the power of man. When war-clouds darkened the sky and pestilence stalked through the land, it has ever been the boast of the members of the medical profession to risk their own lives in their

efforts to save the lives of others, to spend their strength in the service of those in need of their aid, and to stand as a protecting wall between the well and the ravages of disease and death.

This is not all. The medical profession is noble inasmuch as it is progressive in "the service of man." It is within the truth to claim that no other profession has made the progress that medical science has. Smallpox has been bound in chains, diphtheria has lost nearly all its terrors, typhus and relapsing fevers are now only interesting historically, the plague has had its wings clipped, both by prevention and cure, typhoid fever now counts its tens where it formerly counted its hundreds, and the great white plague, tuberculosis, has had its death lists cut in two. But the list could be still further lengthened. In the domain of surgery, gigantic strides have been made. The anatomy and pathology of Hunter, the anæsthesia of Simpson, the asepsis of Lister have enabled surgeons to perfect their technique, and devise and undertake new operations that would never have had a place in surgery but for the above advances. There is much yet to be done, nor need there be any jealousy among the workers, as new discoveries make further discoveries possible. The words of Lord Brougham to the students of the University of Glasgow, in 1825, are peculiarly appropriate to the present. "No man of science needs fear to see the day when scientific excellence shall be too vulgar a commodity to bear a high price. The more widely knowledge is spread, the more will they be prized whose happy lot it is to extend its bounds by discovering new truths, or multiply its uses by inventing new modes of applying it in practice. Their numbers will indeed be increased, and among them more Watts and more Franklins will be enrolled among the lights of the world, in proportion as more thousands of the working classes, to which Franklin and Watt belonged, have their thoughts turned toward philosophy; but the order of discoverers and inventors will still be a select few, and the only material variation in their proportion to the bulk of mankind will be, that the mass of the ignorant multitude being progressively diminished, the body of those will be incalculably increased who are worthy to admire genius, and able to bestow upon its possessors an immortal fame."

Success depends upon work. "Genius," said Ruskin, "is the unlimited capacity for work." Hear what another great sage said. Thomas Carlyle, addressing the students of Edinburgh University, in 1866, uttered the following memorable words. "Advices are very seldom much valued. There is a great deal of advising, and very little faithful performing. And talk that does not end in any kind of action is better

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suppressed altogether. I would not, therefore, go much into advising; but there is one advice I must give you. It is, in fact, the summary of all advices, and you have heard it a thousand times, I daresay; but I must, nevertheless, let you hear it the thousand and first time, for it is most intensely true, whether you will believe it at present or not—namely, that above all things the interest of your own life depends upon being diligent now, while it is called to-day. Diligent! That includes in it all virtues a student can have."

If the student of to-day is governed by the traditions of the past, and inspired by the hopes of the future, working diligently in the great field of medical science, his lot shall not be an unhappy one and his reward shall be well assured. For him shall be vouchsafed the acquisition of true knowledge; and in the language of Shelley, new visions shall open before his mind—

> "Like a spirit hastening to its task
> Of glory and of good the Light springs forth,
> Rejoicing in its splendor, till the mask
> Of darkness fades from the awakened earth."

We bid you be of good hope—*wir heissen euch hoffen*, work and despair not. These were the words of Goethe. Seize hold upon them, for they shall ever remain true.

One word more from Carlyle. "He that can abolish pain, relieve his fellow mortal from sickness, he is indisputably usefullest of all men. Him savage and civilized will honor. As a Lord Chancellor under one's horsehair wig there might be misgivings, still more so, perhaps, as a Lord Primate under one's cauliflower, but if I could heal disease I should say to all men and angels without fear '*En! Ecce!*'"

THE INAUGURATION OF THE NEW MEDICAL BUILDING.

Up to the present, the important work of educating young men for the medical profession has been carried on in buildings that were by no means ideal. The buildings on Gerrard and Spruce streets answered their purpose, largely because of the able and energetic gentlemen who formed the teaching staffs of Trinity Medical School and Toronto School of Medicine; and, later, of Trinity Medical College and the Faculty of Medicine of the University of Toronto.

Eripuerunt cœlo fulmen is, nevertheless, true of the work of those who labored in the cause of medical education fifty, forty, thirty, even twenty years ago. They had no building such as that which now forms part of the University system; but they had wise heads and stout

hearts. A common key and kite string were crude instruments, indeed and yet, by their aid, Benjamin Franklin snatched lightning from heaven, and laid the foundation for Morse, Bell, Edison, Marconi, Lord Kelvin.

So of those earlier teachers, a beginning had to be made, and they went to work with a will. Not deterred by *res angusta domi*, they struggled on. *Their* work was the *key* that opened the door to the present condition of things. They were the Franklins and the Morses of the present proud position of medical education in Toronto. They had much of the *ikmas phrontidos* of the ancient Greeks. The *res magna* and the *res secunda* of to-day are due in no small measure to their labors.

Respice, aspice, prospice is the watchword of the hour. Let all that have the university's best interests at heart look back on the days that are passed, look at the aspect of the present day, and look also into the future. Learn from the lessons of the past. The University of Toronto once had a medical faculty, but it was discontinued. After long years, it was restored, and now both medical faculties are welded into one. The rivalry of former days begot respect, and respect gave rise to friendship, and friendship led to union. *Felix faustumgne sit.*

Let no rude hand up-root the newly planted tree. In the words of Horace: "Out of the smoke of former things has come the light that points to a glorious future." Let the united medical faculty of the University of Toronto and Trinity University strike its roots deep into the affections of the people of the Province, let it rear its sturdy trunk aloft with vigor to resist the storms of opposition, and let it spread its broad branches afield with leaves of healing and fruit of knowledge.

If the University shall prove herself to be a worthy alma mater, her alumni all over the world shall prove themselves worthy sons. We predict that her newly adopted alumni will not be less loyal than those more distinctively of her own creation. The alumni of the future will be able to look upon their alma mater with the same pride that is found in the breasts of those who claim Oxford, Cambridge, Edinburgh, Harvard, as their universities. After having seen many lands and seats of learning, they will be able to look back to their college days in Toronto and say—

Ille terrarum mihi praeter omnes
Angulus ridet:

For me that corner of the earth possesses more charms than all other places.

RADIUM, URANIUM, THORIUM, AND HELIUM.

Many eminent chemists are at work investigating the properties of these strange, rare, and mysterious elements. These chemists include Sir William Ramsay, Professor Dewar, Professor Rutherford, Monsieur Curie, J. I. Thomson, Mr. F. Soddy, Sir William Huggins, and others.

The gases evolved from the thermal springs of Bath contain helium. Sir William Ramsay and Professor Soddy have detected, by the spectroscope, the presence of this element in the gases extracted from a radium salt. So far, helium has been found in extremely small quantities.

Thorium is much more abundant. The nitrate of thorium is manufactured in large quantities in connection with the Welsbach mantle industry. Thorium is a gray metallic element found in connection with certain rare minerals. Thorite is a vitreous or resinous silicate of thorium, crystallizing in the tetragonal system.

Radium is found in some specimens of pitchblende, one of the minerals from which uranium is obtained, and which also exhibits remarkable radio-activity. Monsieur and Madame Curie, of Paris, followed up the work of M. Becquerel on uranium. In working with pitchblende they found that it sometimes contained an ingredient of much greater radio-activity than uranium. This substance was named polonium. Continuing their investigations on the very active radio-emanating barium salts found in the pitchblende, they succeeded in isolating radium in the form of a chloride. The atomic weight of this new metallic element has been set down at 225. Radium salts are self-luminous. Radium salts impart a green light to barium platino-cyanide, a remarkable phosphorescence to hexagonal blende of sulphide of zinc, and cause diamonds to glow with a pale-greenish light. Radium remains constantly warmer than its surrounding objects. It appears to suffer no loss of weight or radio-activity while parting with so much heat and light. The ions of radium rotate so violently as to emit a violet light, and then to return to their original atoms, repeating the same process again.

These three elements, but especially radium and thorium, possess the properties of producing spontaneously rays and radio-active emanations. The salts of radium have an undoubted action upon diseased tissues. Mr. Mackenzie Davidson, of London, Mr. John Macintyre, of Glasgow, and Professor Gussenbauer, of Vienna, have employed the rays from radium in the treatment of lupus, rodent ulcer and superficial cancer with very promising results. The rays from radium can burn the normal tissue. Three kinds are distinguished as coming from radium: infinitely small positively charged atoms of matter flying at great speed;

rays which seemingly correspond to the cathodic rays in a Crooke's tube; and rays which evidently correspond to the x-rays. The rays in an hour will burn healthy tissue after passing through a thin layer of air and another of mica.

The radio-active emanations, or gases, from radium and thorium possess the power of spontaneously emitting rays similar to those emitted by these elements or their salts. The rays of radium and thorium possess powerful germicidal qualities. The attempt is now being made to utilize these radio-active emanations, or gases, in the treatment of pulmonary tuberculosis. The nitrate of thorium and the bromide of radium are the salts used. These salts are placed in a suitable gasholder and dissolved with a few drops of water, and the taps of the gasholder closed immediately. For the first trial, a few bubbles only of the radium gas should be drawn into the lungs, and retained there as long as possible. When using the nitrate of thorium, the solution must be neutralized by means of ammonia until the solution is just ready to precipitate the hydroxide of thorium. This is necessary to avoid the irritation of the lungs with the free nitric acid. In inhaling these gases the air is made to pass through the solutions and thereby become charged with the radio-active emanations.

These emanations have the power of leaving behind them a layer of radio-active matter, which continues active for some time. It is in this way that the effect of these gases are prolonged in the air cells of the lungs. The thorium inhalations may be used almost continuously, whereas the inhalations of the more active radium emanations may be resorted to once or twice in the twenty-four hours.

A kilogram of thorium nitrate costs $10, and a milligram of radium bromide, about $5. A few milligrams of the radium salt are sufficient for the gasholder, and continue to emit those active emanations for a long time. The utmost care must be exercised in all these manipulations that the gases be not lost. The gasholders must be provided with properly fitting taps. There is thus the possibility of introducing into the air-cells of the lungs an active gas of radium and thorium that possesses the same power to emit rays as do the solid salts of these elements. The rays from these radio-active emanations, or gases, have the same germicidal properties as those from the salts. Radium rays have cured both rodent ulcer and lupus. If these rays are able to cure lupus on the face, it is well within the range of possibility that they will be able to cure lupus of the bronchial tubes and air cells—pulmonary tuberculosis.

When the emanations are inhaled, the salt of radium and thorium reproduce a fresh supply. This process goes on in-

definitely. We have in these properties of radio-activity and the rays produced in the vacuum tubes of the x-ray machine great possibilities for future therapeutic advancement. It is now possible to inhale a ray producing gas.

HYPNOTISM, MESMERISM, BRAIDISM.

It is admitted the practical application of hypnotism in surgery is very limited. In the first place, few physicians care to learn how to hypnotize people. Then there is the difficulty that many persons are hard to bring under the influence of suggestion. Further, it must be borne in mind that once a person has been hypnotized, it may be unfortunately too easy a matter to induce the hypnotic state again. Indeed, the condition of auto-hypnotism may result. It is quite true that physicians frequently make use of the powerful influence of suggestion in the treatment of their patients; but this is quite a different thing from the formal hypnotizing of a patient.

The main use to which hypnotism has so far been put is that of giving public exhibitions for the amusement of the spectators. Some clever fakir who has learned how to practice hypnotism advertises meetings at which such performances will take place. This is trading upon the morbid curiosity of the public, and the nervous instability of a certain number of persons. All this is done for the gain of the so-called hypnotist.

But the other side must not be overlooked. The gratification of such morbid curiosity on the part of the audience is not devoid of harmful results. These persons know nothing of the laws governing hypnotism and have, as a consequence, a wrong and exaggerated notion of the demonstrator's powers. It becomes an education in wrong views of nature's processes. It must also be remembered that some have had their nervous organization seriously deranged, by being the subjects of hypnotism on these public occasions.

Some four years ago, the British Medical Association took strong grounds against public exhibitions of hypnotism; and recently the German minister of the Interior has renewed the order forbidding these demonstrations. This is as it ought to be. One can hardly imagine anything more disgusting than a clever fakir, in the presence of an audience, hypnotizing some neurotic subject for the amusement of those present and his own gain.

THE CHIEF CORONER FOR THE CITY OF TORONTO.

We herewith give the Amendment to the Act respecting Coroners, and the Regulations of the Lieutenant-Governor-in-Council. The plan now introduced in Toronto is somewhat similar to that which pertains in Scotland, where the Procurator-Fiscal holds such investigations. We believe that the Amendment and Regulations will be effective and valuable in simplifying the holding of inquests.

Amendment to the Act Respecting Coroners.

Section 22 of The Statute Law Amendment Act, 1903, provides:

22. Section 1 of The Act respecting Coroners is amended by adding thereto the following subsections:

(2) The Lieutenant-Governor may from time to time appoint a coroner, to be designated "the Coroner for the City of Toronto," and from and after such appointment all coroners or associate coroners theretofore or thereafter appointed in and for the County of York as to the City of Toronto have and exercise within the City of Toronto the powers only of associate coroners for the said city, but this shall not limit the power of the Lieutenant-Governor to make further appointments of associate coroners for the City of Toronto from time to time. The powers and duties of the Coroner of the City of Toronto appointed under this subsection, and of all associate coroners in the said city respectively, shall be defined by and shall be exercised subject to such regulations as may from time to time be made by the Lieutenant-Governor in Council.

(3) Whenever the death of any person appears to have been caused by an accident occurring upon a street or highway in the City of Toronto in the operation of any railway or street railway or electric railway on or across any street or highway the Crown Attorney for the County of York shall direct the coroner or one of the associate coroners in the said city to hold an inquest upon the body of the person so dying, and the coroner or associate coroner to whom such direction is given shall issue his warrant and hold an inquest accordingly.

(4) Section 4 of this Act shall not apply to or be in force as to inquests in the City of Toronto under the foregoing provisions of this Act, nor as to investigations held in the City of Toronto under section 6 of this Act.

(5) The coroner for the City of Toronto shall be paid such salary, not exceeding $1,500, as may be fixed by Order-in-Council, and the same shall be paid by the city half-yearly and shall be in lieu of fees which would otherwise be payable to him and the city shall be entitled

to be reimbursed out of the Consolidated Revenue Fund as to one-half the amount of such salary.

(6) Any coroner within whose jurisdiction the body of a person is lying upon whose death an inquest ought to be held may hold the inquest. (See Imperial Coroner's Act, 1867, s. 7.)

REGULATIONS PASSED BY THE LIEUTENANT-GOVERNOR-IN-COUNCIL PURSUANT TO CHAPTER 176, SECTION 22, 3 EDWARD VII.

1. Immediately on any death being reported to any Police Officer in the City of Toronto under circumstances that appear to require investigation by a Coroner, it shall be the duty of the such Police Officer forthwith to report the same to the Coroner for the City of Toronto.

2. It shall be the duty of the Coroner for the City of Toronto upon receiving any report as to a death within the limits of the City of Toronto under circumstances appearing to require investigation by a Coroner, forthwith to make such enquiry as may be necessary in the premises, and either personally to investigate the circumstances under which the death in question has occurred, and to hold an inquest if he is so advised, or to request some Associate Coroner for the City of Toronto to issue a warrant and make an investigation or hold an inquest. And in making such requisitions the Coroner for the City of Toronto shall apportion the work as equitably as possible amongst the several active Associate Coroners for the City of Toronto.

3. It shall be the duty of an Associate Coroner, upon the receipt of a requisition to make an investigation or hold an inquest, signed by the Coroner for the City of Toronto or by the Crown Attorney for the County of York, as the case may be, forthwith to issue his warrant with such requisition thereto attached and file the same at any police station in the City of Toronto, and proceed to make an investigation or hold an inquest. And no fees shall be payable to an Associate Coroner in respect of any investigation or inquest held by him unless the warrant and the requisition in that behalf have been so filed by him.

4. The requisition hereinbefore referred to, signed by the Coroner for the City of Toronto or by the County Crown Attorney for the County of York, as the case may be, shall take the place of the declaration referred to in section 4 of "The Act respecting Coroners," so far as the same relates to investigations and inquests in the City of Toronto.

PERSONAL AND NEWS ITEMS.

Dr. Knight, it is stated, will locate at Hoard's Station.

Dr. Graham, of Ottawa, has hung out his shingle in Galetta.

Dr. Arthur W Mayberry, Toronto, has resumed practice.

Dr. Keith and his bride have arrived at their new home in Omemee.

Dr. J. J. Wilson, of Bradford, has decided to locate in Burk's Falls.

Dr. Charles Fisher, of Sarnia, has gone to Detroit where he intends locating.

Dr. Reid, Demorestville, has gone to Port Arthur ashead physician in the hospital there.

Dr. Maitland Cook, of Traverson, has gone to Souris, where he intends to practice.

Dr. A. D. Stewart, Richmond, Que., has been appointed port physician at Montreal.

Dr. Gordon Mylks, of Kingston, was married recently to Miss Lucy Row, of Kentucky.

Dr. Featherstone, of Prescott, recently spent a short time visiting the hospitals in Toronto.

Drs. Maloney and Kennedy have left Charlottetown, P.E.I. and have gone to the West.

Dr. J. B. Martyn, Alvinston, was married at Motherwell, on 13th August, to Miss Jessie Rae.

Dr. A. P. Nelles, of Windsor, has gone into partnership with Drs. Brien and Doyle, of Essex.

Dr. C. H. McDougall, of Caradoc, left a short time ago for a sojourn among the British hospitals.

Dr. A. McPhedran, of Toronto, when in Britain attended the Allied Universities Conference.

Dr. A. S. McCaig, of the Sault, and Miss Margaret Shanks were married a few weeks ago.

Dr. W. E. Olmsted, of Caledonia, has disposed of his practice to Dr. F. G. Morrow, of Strathroy.

Dr. J. T. Clarke, of Bloor St., Toronto, was married at Kincardine to Miss Malcolm, 9th September.

Dr. F. Dykes, of La Riviere, was reported to be seriously ill with typhoid fever a short time ago.

Dr. Morrison has bought the premises occupied by the late Dr. McArton and will locate in Paisley.

Dr. Cecil C. Ross, who is medical health officer for London township, has been appointed a coroner.

Dr. O. M. Jones, of Victoria, returned home in the end of August after a several months visit to Europe.

Dr. Frank Neal, of Walton, has gone to the Old Country for post-graduate study and hospital experience.

The marriage of Dr. W. D. Finn, of Halifax, and Miss Emma Grant took place at St. John, N.B., 2nd September.

Dr. W. D. Keith, formerly of Van Anda, has returned to Vancouver after a post-graduate course at Johns Hopkins.

Dr. Sargent, Springbrook, is making a prospective visit in Manitoba. Dr. Paget, of Elora, is acting as *locum tenens.*

Dr. Lafleur, of St. Gregoire, was seriously injured in a railway accident recently, the day before he was to be married.

Dr. Thomas H. Thornton, Consecon, received every vote as member for the Quinte and Cataraqui District, No. 14, C P. and S.

A short time ago, Dr. Elliott, of Stellarton, N.S., was operated upon for appendicitis. When last heard from he was doing well.

The marriage of Dr. G. F. R. Richardson, of Sprucedale, and Miss Mabel Young, of Markham, was celebrated 3rd September.

Dr. Wittan, who acted as surgeon to the second contingent in South Africa, has returned from Britain, and will locate in Ottawa.

Dr. E. E. Kitcher, of St. George, has been appointed chairman of the Provincial Board of Health. We congratulate the doctor.

Drs. Holden and Robertson, of Victoria, B.C., left Victoria for a three months' visit among the hospitals of the eastern cities.

Dr. J. B. Kennedy, formerly of Welland, and now of Australia, recently visited his friends. His new-married wife accompanied him.

Dr. James Stewart, of Montreal, is now convalescing from his recent severe illness. His many friends will be glad to learn of his recovery.

Dr. Haig has resigned his position as Medical Superintendent of the Kingston General Hospital, and intends going to Britain for a special course.

Dr. William Bayard, the Nestor of the Medical profession in St. John, celebrated his 90th birthday a few weeks ago. Many congratutions.

Dr. J. W. Hart, of Bracebridge, Muskoka, is a candidate for the local legislature. The seat was rendered vacant by the death of Dr. Bridgeland.

Campbellford, population about 3,000, has four doctors; Stirling, population 1,000, has six doctors; Madoc, population 1,300, has five doctors.

Dr. G. G. Ferguson, a graduate of the University of Glasgow, has decided to locate in Strathroy. He has had an extensive hospital experience in Britain.

Dr. F. C. Marlowe, of Blackstock, has returned from Britain where he was engaged in hospital work. The Doctor was very successful in his examinations.

Dr. Costolow, of Valcourt, Que., who had practised there for many years, accidently took an overdose of an anodyne medicine, which caused his death.

Dr. George W. Ross, son of the Hon. G. W. Ross, has gone to Europe for two years study. He intends spending a good deal of his time in Edinburgh and Leipsig.

Dr. J. F. Boyle, son of Mr. David Boyle, chief of the Archæological Department of Ontario, after visiting many countries in the East says there is no place like Canada.

Dr. W. T. M. MacKinnon, a recent graduate of the University of Toronto, and house Surgeon in Grace Hospital, has passed the examination for Nova Scotia and will practice in Amherst.

Dr. Hugh Ross, who has practised for some time in Stellarton, was made the recipient of a handsome gold chain and locket and a purse of gold on his leaving for his future location at Canso.

Dr. I. Smith, who is opening an office in Guelph, has just returned from New York, where he was house surgeon in the New York City Hospital for two years, and the New York Lying-in Hospital.

The eighteenth annual meeting of the Association of Executive Health Officers of Ontario, opened in Peterborough on 10th September. The attendance was good, and a number of interesting papers were read.

Dr. Sprague, Stirling, the author of "Medical Ethics and Cognate Subjects," who, during the editorship of this journal by Dr. Fulton, his teacher, was a faithful contributor to its pages, was recently appointed examiner in materia medica and pharmacology by our College of Physicians and Surgeons. The doctor for two years was examiner in medical jurisprudence, Trinity University, and he honors his recent honored appointment by our Medical Council.

We draw the attention of physicians who may desire to sell their practices or those who may wish to buy a medical practice, to the Canadian Medical Exchange. Dr. Hamill has been conducting this important department of medical affairs for the last ten years, and from close knowledge of his method of doing business we can strongly recommend him to the confidence of the profession, and advise any of our readers who may have any business in this line to place it in Dr. Hamill's hands, with the full assurance that the utmost business ability, integrity and professional secrecy will be utilised. We have examined his method of doing business, and must admit that he has systematised it to perfection as to meet the wants of the profession most fully.

During the session of the late Canadian Medical Association, there were many happy meetings of men with fellow-graduates of early days. Three men who were fellow-graduates of 1861, five who parted in 1869, met.

"How few of us will ever meet
Again this side the narrow stream?
And even if our hands could touch,
We'd seem like figures in a dream.
It's youth, sweet youth, good-bye to you,
And we are ghosts that cry to you
For the old days,
For the old care-free days."

. . . . "Let's have a loving cup with her—
A cup with her and a song with her,
And a sitting still and long with her,
For the old care-free days."

OBITUARY.

LOCHLIN C. SINCLAIR, M.D.

Dr. Sinclair, of Tillsonburg, died 21st August. The doctor was one of the best known men in his district, having run for member of Parliament in the riding some years ago; and in his profession making hundreds of friends, always willing to put himself out in order to administer to the wants of his numerous patients. He was in his 64th year.

W. J. SLATER, M.D.

Dr. W. J. Slater, for many years a resident of Essex, died in Chicago, on the 20th September, at the advanced age of 85 years.

W. G. MONTGOMERY, M.D.

Dr. W. G. Montgomery, of Minden, Ontario, died at his father's residence at Gorrie on the 8th September, after a short illness. Deceased was 29 years of age.

WILFRED L. TAYLOR, M.D.

Dr. W. L. Taylor, of Waterloo, died on 4th September, in his 29th year. He was a graduate of McGill, and appears to have contracted tuberculosis during his last year at college. He was a young man of much promise.

FRANK. C. FRASER, B.A., M.D., C.M.

Dr. Frank C. Fraser, B.A., of Ste. Agathe des Monts, died at his father's residence, No. 70 University street, Montreal, 26th August, at the age of 30 years. The deceased graduated from McGill University in June, 1898. Since then he has been suffering from tuberculosis. On leaving college he went to Saranac Lake in search of health, but was unsuccessful. He remained there for two years and then removed to Ste. Agathe, where he practiced, being in charge of the Sanatorium.

E. F. CHEVREFILS, M.D.

Dr. E. F. Chevrefils, Inspector of Public Buildings of the Province of Quebec, passed away rather suddenly Sunday, 23rd August, at his home on Berri street. Heart disease was the cause of death, and he had been ill only a day and a half. The late doctor was born on November 23rd, 1835, at St. Michel, Yamaska County, and was educated at St. Hyacinthe College. After studying at the old Victoria College and settling at Nicolet, and later at Somerset, he became Coroner of the District of Arthabaska. On November 19th, 1896, he was appointed Inspector of Public Buildings for the Province of Quebec, residing in Montreal.

R. B. SHAW, M.D.

The death of Dr. R. Bruce Shaw, of Charlottetown, took place in the Massachusetts General Hospital on Sunday evening, September 6th,

DISEASES OF THE PANCEAS.

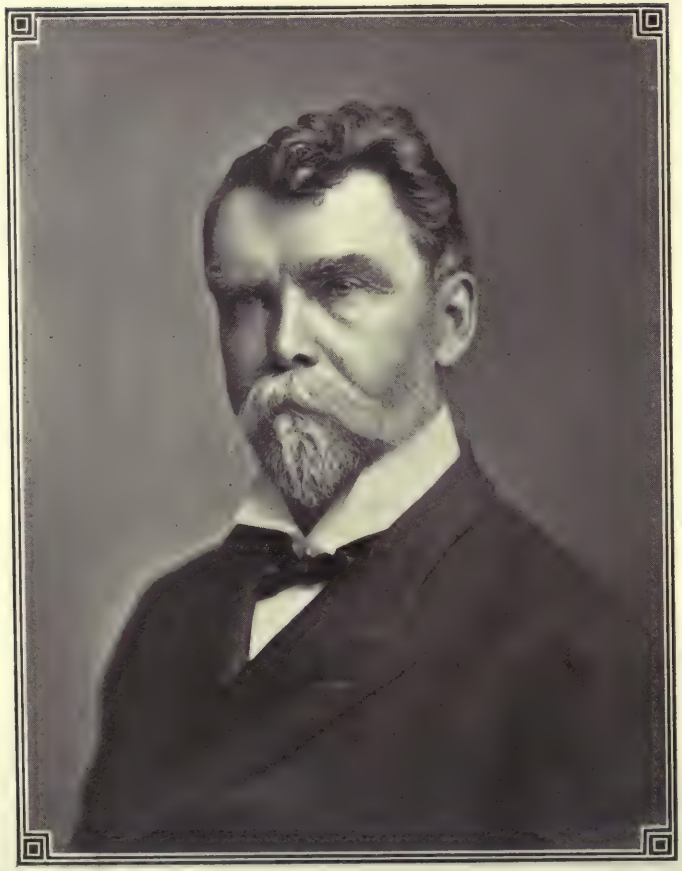
Diseases of the Pancreas, its cause and nature. By Eugene L. Opie, M. D., Associate in Pathology in the Johns Hopkins University; Fellow of the Rockefeller Institute of Medical Research. Philadelphia and London: J. B. Lippincott Company. Montreal: Charles Roberts, 1524 Ontario Street.

It is genuine pleasure to review an original thesis of such merit as the present volume of 350 pages proves itself to be. Under the headings of anatomy, anomalies, histology, inflammation, hæmorrhages, fat necrosis, interstitial changes, hyaline degenerations, diabetes mellitus, and treatment, the reader is furnished with much valuable information. Throughout the book, the remarks on etiology and symptomatology are both useful and interesting. On the relationship between disease of the pancreas and diabetes mellitus, the author states that more than half of all cases of diabetes is due to destructive lesion of the pancreas, and that the destruction is mainly in the islands of Langerhans. Another interesting portion of the book is that dealing with the connection between gall-stones and acute hæmorrhagic pancreatitis. In the treatment of diabetes mellitus, due to disease in the pancreas, the administration of pancreatic extract has been found to be beneficial in many cases, more particularly when there is inability to digest fats and there is an escape of these in the faeces. We can not only recommend but we can praise the book.

POST-MORTEM PATHOLOGY.

A Manual of Post-Mortem Examinations and the Interpretations to be drawn therefrom A Practical Treatise for Students and Practitioners. By Henry W. Cattell, A.M., M.D., Pathologist to the Philadelphia Hospital and the West Philadelphia Hospital for Women, and Sometime Director of the Josephine M. Ayer, Clinical Laboratory of the Pennsylvania Hospital; Senior Coroner's Physician of Philadelphia; Pathologist to the Presbyterian Hospital; Prosector of the American Anthropometric Society; Demonstrator of Morbid Anatomy in the University of Pennsylvania, etc. With 162 Illustrations. Philadelphia and London: J. B. Lippincott Company, Montreal: Charles Roberts, 1524 Ontario Street.

To begin with, this octavo volume of 375 pages is got up in the very best possible style. The binding, paper, printing, and illustrations leave nothing to be desired. The book deals with the whole question of making Post-Mortems, and the information to be gained from the gross appearance of the various organs. Much useful information is furnished on the subject of making bacterial examinations. Comparative post-mortems are also taken up at some length. A very important chapter is added on medico-legal suggestions. The International classification of the causes of death is given in full, consisting of fourteen classes and 179 designated causes of death. We should think this book would be of the utmost value to pathologists.



J. A. ROBERTSON, M.D.,
Stratford, President of the Council of the College of Physicians and Surgeons of Ontario.

THE LATE JOHN B. LUNDY, M.D.,
Preston, Ontario.

THE CANADA LANCET

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INAUGURAL LECTURE, NEW MEDICAL BUILDING, TORONTO.

By CHARLES S. SHERRINGTON, M. A., M. D., F. R. S.

Holt Professor of Physiology, University of Liverpool.

Believe me, it is a difficult thing for a stranger, even at your invitation, to address you on an occasion like the present. So many significant events crowd in upon him and time for reflection is needed to weld into a connected whole the impression he would wish to offer to you. Not that the growth and doings of this University have not been followed and watched with interest by us in the Old Country. On the contrary, your activity has been felt, not only as a matter of mutual congratulation, but as a spur to arouse us to effort in our own similar pursuit of educational aims. But the stranger coming among you necessarily feels the shortcomings of his acquaintance with the details of these academic enterprises you have taken in hand. One advantage, however, is his. His view, gained from a distance, necessarily has freedom and truth of perspective that may give it a value in your eyes.

Some things lose by perspective. Some things, large, when close to hand, dwindle when viewed from afar. Not so in Canada. The perspective given by the width of the Atlantic is but an appropriate setting across which to view her greatness and her far-reaching activity. And this event, this academic celebration, this *dies festus*, in your University to-day, retains from a far off all the significance of a great event. It loses no tittle of its dignity and import when viewed across ocean from the crowded turrets of the older Cambridge, or the hoary spires of Oxford. It shines, I assure you, like a beacon to the new University whose buildings are as yet unfinished on the hill above the port of Liverpool.

Coming from a region where history is long and the land little to this where written history is short and the expanse of land incomparably great, one realizes how relative is size. And in regard to the event of to-day the largeness of this country rises in my thought not as a matter of mileage, but—that with you more than with us in the Old Country, the size of to-morrow is vaster than the size of to-day. Each step of progress here more than with us, has to be measured by its ample consequences in a more rapidly widening horizon of the morrow. And

so with these new laboratories, : for they have a field already demanding them, and a still larger lies before them in an immediate and historic future.

Biology is the study of life in regard especially to growth and organization. Every medical man is a biologist, and as a biologist it may be but natural if I regard to-day's event from a biological standpoint, and the community as an organism, and the university as a living organ, essential to the healthy life of the community.

Science—especially medical science—is growing in importance to the community. We must have organization in science as in industry. This University to-day makes provisions of first rate importance for the organization of medical and allied sciences in the region which centres here. Capacity to rear and support men constitutes the extent of a country, and population is the biological measure of the social organism. The ceaseless energy of the race has begun to plant a great population in this land. Growth, great and rapid, is inevitably before it. The growth of nations as of individuals requires the vigilance of guiding hands. Growth, for it to take its course, rightly towards perfection, requires that provision for the security and expansion of the liberal arts and sciences forerun rather than halt behind the actual requirement of the hour. Not only for their direct utilitarian service. They form a whetstone of man's most universal tool, his intellect. Also a discipline for character, in the pursuit of truth for its own sake. Scientific truth, when found, has often proved unpalatable to man—as when it dethroned him from his fancied seat at centre of the whole perceptible universe, a universe he had imagined simply subservient to his needs—or again, as when it taught him that instead of being a creature altogether apart from brute creation, there are flesh and blood bonds between himself and them. Regardless of its cost to his cherished fancies, man strives for scientific truth. And, as the old Greek said, this purpose puts him further from the brutes and nearer to the gods.

In nurturing science, I would urge that a community cultivates more than mere utility. And even with regard to mere utility, as the fields of knowledge fall ripe under the ceaseless husbandry of the world's thought those who would join in the great reaping, and not only gleam where others reaped before them, must cultivate for themselves. To do this requires more than the devotion of individuals. It requires the intelligent co-operation of whole groups of individuals. Organized scientific inquiry becomes in advanced countries a conscious aim of the community as a community.

That society may draw due benefits from wells of natural knowledge three kinds of workers have to stand side by side. First, the investagator, who, pursuing truth, extends discovery, with little or no reference to practical ends. He constitutes the fountain-head of the knowledge that is for distribution. Other hands may reap the harvest, but his sets and rears the seed. After the investigator comes the teacher. To him it belongs to diffuse the knowledge won. This honourable and difficult task receives its best reward in seeing the small spiritual beginnings of a pupil widen out into the spiritual beginnings of a master. Thirdly, there is the applier of natural knowledge. His part consists in making scientific knowledge directly serve practical needs. It is this work which to the popular idea often presents the whole of science, or all of it that is commonly termed "useful." The practical results of this work are often astounding to those ignorant of the steps by which they have been reached. The greatest of these steps, however, is usually the first one, made in the laboratory of the investigator. These three co-workers are coequal in the priesthood. Science and the applications of science are one growth, united together even as the fruit and the tree. The proper hearth stone round which the community should group these laborers, laboring for a common end, is the University. There the sacred flame of learning is fed from many sides by many hands.

It is sometimes said that pursuit of science renders a man deaf to the appeals of practical life. That it tends to withdraw him from the everyday interests of the people That I do not believe of any science. Certainly not of biology and the medical sciences. Why, from their very outset these subjects draw the mind toward study of an organization the most complex and the most perfect it can examine. The ancient simile that our old school classic, Livy, drew between the human body and the body politic the state, has not lost but won significance as the centuries have run. The achievement of the microscope has been the discovery that living things, whether plant or animal—all living things of more than minutest size—are common-wealths of individually living units. These cells, as they are called, are living stones that build the house of life. In that house each stone is a self-centred, individually living microcosm, individually born, breathing for itself, feeding itself, consuming its own substance in its living, and capable of and destined for an individual death. Each cell lives by exchanging material with the world surrounding it. In other words, its bulk depends on its surface. Hence surface increasing as the square, and volume, as the cube, cell-size, is circumscribed by tiny limits—microscopic limits. Had the dependence been greater than it is, and the average size of the cell

less, and too small for resolution and discovery by the microscopes of seventy years ago, it is hard to imagine where biology would stand to-day. For two generations, every biologist has been accustomed to think in terms of the cell-theory. Every shred of the body he knows as an intricate interlacement, embodying co-operation and mutual support of associate thousands of individually existent cells. Division of labor has gone on, and with it differentiation of function; while this group of cells combines with its own inner life some special function subservient to the needs of the great common-wealth, as a whole. Another group is specialized for another duty again subservient to the general needs. Each organism, however complex, each one of ourselves here, is built up of myraids of living cells. Each such organism consisted at outset but of a single cell, and from that in his life's growth have arisen the countless myraids composing him to-day. The blood relationship is close between all the cells of each one individual body. The cells of our nerves, or our muscles of our time hardened bones are all blood relations through one common ancestor. Yet so far has specialization of these unit-lives gone on, yet so far does function reflect itself in microscopic form, that there is greater likeness between my nerve-cells, the nerve-cells of a fish than between my nerve-cells and my own muscle cells—despite the blood relationship between these latter. And in the common-wealth of cells that constitutes each one of us, goes forward day long, night long, as in the body politic. The birth of new units to replace the ones outworn, the subordination of many individual purposes to one, the sacrifice and destruction of the individual life for the benefit of the many.

Trained in study of such an organism, surely the biologist and the medical man will be the last to underrate the importance of organization to the community for the commonwealth. Therefore I am rejoiced, but I am not surprised, that it is your faculty of medicine which to-day, in its public spiritedness, erects and instals these fine laboratories, this potent addition to the organization of your community, for its activities in medicine and biological science. I would also, as a friend among you, offer you my congratulations on the consolidation of your two schools of medicine. Union means not only greater strength, but the more effective application of strength. I need not to this assembly extol medicine. Many of her votaries are here; I venture to count myself as one. But to-day the relation toward her of education is a matter on which our minds are naturally set. Am I wrong if in regard to this it rises saliently to me that from the educational standpoint medicine, like Janus of old, in a good sense, bears a double face. On the one hand, she is an

empiric. She has learned to cure by what the comparative psychologist calls the "method of trial and error." Conquests over sickness acquired purely as result of experience, without help either from a priori or from inductive reasoning. And great and glorious is the role of her achievement on these lines. Of her humanitarian triumphs probably still—certainly until a generation ago—the greater share is assignable to this part. The use of quinine in malaria, the curative effects of the iodides and various metals, the discovery of chloroform and ether as anaesthetics, these and the names of a long line of famous physicians from the renaissance down to some as justly famous as the past, and with us now to-day suffice to certify the inestimable gifts that medicine as empiric has given to mankind in his suffering. This face of medicine well may wear a garland.

In her other aspect, medicine is not an empiric but a scientist. Who will refute me if I assert that medicine is as well an art as a science. Somewhere it is said that woman is the last thing that man will ever civilize. So the scientific aspect, the male face of two visaged medicine, thinks of that female face, the empiric, with whom his lot is linked. He feels sometimes that his other half is the last thing science will ever render wholly rational. By dint of patient toil he improves her practice by showing her reason now and then. No sooner that than she is off on a fresh flight into the inexplicable, and he must cudgel his brains anew to find her a fresh logical position.

The feminine, ever youthful trait in medicine, has to the student an undying charm. But on the whole, the countenance of medicine has of recent years, for the student, become masculinely severe. This head of medicine has indeed become the larger. Hydrocephalic in appearance though it may be, it is filled, not with water, but with reasoned facts. The development proceeds in the main from certain data acquired in the century just passed. For instance, the chemist, in discovering that all the million-sided chemical diversity of the perceptible universe is composed from a few—some 70—substances, therefore called elemental, discovered also that living matter, instead of containing elements different from or subtler than those of the dead world, consists of just a few of those very same ones. Further, the doctrine of the indestructibility of matter was demonstrated in a new form, namely, as the destructibility of energy, and the convertibility of any one form of energy into other forms. Thus, dead and living matter become united as subject material for study. It became really possible to consider the living body as a chemical and physical machine, a machine to which the laws of chemistry and physics can be applied.

But this scientific progress in medicine, fruitful of benefit to the community, lays a burden of obligation. The empirical part of medicine is at once the most easy and the most difficult thing to teach. The preparation for learning it requires but little training in other subjects. Its facts lean on nothing but themselves.

With the scientific part of medicine it is different. That is based upon initiatory studies. Medicine historically traced, we find first drawing help from the simplest and nearest at hand of these adjuvant studies. First she bent to the study of the gross form of the parts and organs of the body. The gross form of these is significant chiefly where they are machinery for application of mechanical powers. The greater part of the corporeal machinery is, however, not destined for such work, but has its purpose in processes chemical, thermal, and electrical, to which—marvelous appendage—mentality is adjunct. Medicine, in the course of the seventeenth and eighteenth centuries, sucked dry for the most part what the study of the gross form of the body's parts could yield her. She then turned to study of microscopic form—examined what Bichat first named the tissues, the fabrics of the body. In so doing she came upon a great generalization, the cell-doctrine, discovering an essential and visible similarity of microscopic structure in all that has life, differentiating it from all which has not life.

But even before the advent of the cell theory, medicine had begun to ask of chemistry what it could give her. With the discovery of oxygen and of the nature of combustion the links between biology and chemistry began to be tightly drawn. The young Oxford physician, Mayon, had performed the fundamental experiments on respiration and had discovered oxygen more than a century before Priestley and Lavoisier, but the time was not ripe until the stupendous work of Lavoisier had founded modern chemistry. The cell-theory was from the first not only morphological, but physiological. It meant for the application of chemistry to biology that the chemistry of the body or of one of its organs was a chemistry resultant from a thousand tiny living furnaces, individual seats of oxidation, deoxidation, polymerization, hydrolysis, and what not.

Not only that, but the living laboratory of the cell itself manufactures even the medium in which the cells themselves exist : the saps and juices of the body. And we are beginning to know, thanks to pathology, that every species of animal produces an internal medium specific to itself. Further, your distinguished physiologist here, Professor Macallum, who has so revealed the distribution of the chemical elements within the cell, tells us that the internal medium which the cells of even the highest animal forms produce as appropriate for themselves, still

approximates in its salts to the water of the ancient geologic seas in which their ancestry arose, and still reveal in fact the composition of that ancient ocean. In that respect these living cells, with all their influx of change, have been more durable and constant even than ocean itself. The contrast brings home to us a deep distinction between dead matter and living—the latter a moving equillibrium, gaining stability from the very motion of itself.

The bond between Schwann and Pasteur has opened a new perspective, and chemistry and medicine were drawn still tighter by their discoveries concerning those subtle influences named "ferments." Pathology, the study of these processes of the body in disease, even more than physiology, as yet has drawn help from this part of modern chemistry. If the processes of health are in fact the resultant of the due cooperation of ten million little foci of healthy chemical action in the body, the processes of disease are similarly divisible, and have to be traced to the unhealthiness of certain of these minute centres of activity. How extreme is the importance of chemistry to modern medicine, no single statement can perhaps emphasize so well as this —that is, I believe, acknowledged on all hands—that in virtue of his chemistry, a chemist, Louis Pasteur, during the latter half of last century, was able to do more to alleviate the diseases of mankind and animals than any single physician of his time.

Also medicine has made appeal to the physicist, and from him she has got understanding of the body's heat, the basis of knowledge of fever; she has learned the intricacies of the mechanism of the eye and refined methods of examining that organ and of remedying many of its defects; the laws that govern the circulation of the blood and the subtlest means of detecting the forces liberated in the working of the nervous system. In some cases as sciences grow, their discoveries seem to sunder them the further one from another. In my belief, that merely shows they are at the outset of their career. To-day we find physics and chemistry converging and conjoining within a field of physical chemistry. It early became convenient to have a specific name for living material, wherever found. The name given was Protoplasm. It might have been better to call it x or y, so far was it in many respects an unknown quantity. Instead of looking forward to this material as a chemical entity, we incline now to regard it rather as a field for chemical action, satisfying certain particular conditions. Probably discoveries regarding these conditions will fall to the physical chemist, perhaps in a future very near at hand. Probably such discoveries will be among the most valuable that medicine has yet received from any source.

I have said enough to remind us how interlocked with science medicine has become. She is applying sciences to her own problems,

and they form a vast capital fund from which she can draw wealth. To give instruction in this part of medicine, to turn out men trained in it, is now one of the duties of a medical school. The earnest student has a right to expect such training from his *alma mater*. But for it the requirements are importantly different from those that suffice as an introduction to empiric medicine. In the first place, as Pasteur said, we cannot have the fruit without the tree. For scientific medicine the student must, perforce, be thoroughly trained in his sciences before he can really grasp instruction or truly profit from his medical teaching. One of the aims of his instruction in empirical medicine is to teach him to observe for himself, so in his instruction in scientific medicine, one of its aims is to enable him to apply science for himself. How small a fraction of all the realities of medical practice can be met in the few years of preparation of the student in the clinic as he passes through it in his school career. His teacher knows that well, and uses the cases there as types whereby the principles of medicine can be fixed as a beginning. The rest must be accomplished by the man himself, as his life's work. The more necessary that the man go forth from his school equipped not only with the present applications of science to disease but so possessed of root principles of the sciences adjunct to medicine that he may grasp and intelligently use the further devlopments of scientific medicine after he is weaned from his instructors and the school. That is a way to obtain enlightened progress in professional practice. What truer safeguard can a man have, alone it may be, and isolated from the centres of knowledge, what truer safeguard can he have against all the pseudo-scientific quackeries of the day, than some real knowledge of the principles of the sciences, along whose lines the discoveries of medicine must develop.

Therefore it is that the burden of obligation falls heavy nowadays upon the teaching resources of every faculty of medicine worthy of the name. There is, in the first place, the burden of increased intellectual labor. For the learner and the teacher is this true. To seize the proffered assistance of these great and complex sciences is not always easy. These studies are more difficult than those that were needed once, and they take longer to acquire. The mere instrumentarium of modern chemistry and physics, as applied to medicine and of physiology and pathology, and bacteriology and of hygiene, of itself suffices to bring conviction of the increased difficulty and longer training due for these studies now preparatory to medicine.

Further, these initiatory studies have become vastly more costly than was all that formerly was required. Experts have to be found who can devote themselves heart and soul and undividedly to their

particular subject. Laboratories have to be erected and equipped, and on a scale that makes them a distinct feature of the modern world. Those that we see now here are models of their kind; wise foresight has planned them; public-spirited enterprise has constructed them. Nor does the achievement end with their erection. The laboratories and their equipment are but the factory and the plant; both fail in their purpose if they halt for sustenance. And beyond that the likeness does not go. The factory, once started, if it be wanted, can expect to pay, to support itself. Not so the laboratory. The laboratory is both a school of instruction and a school of thought. Well, no higher instruction can be expected unaided to pay the expenses it involves; it can only do so at the expense of those who come to learn, and that is to put its teaching beyond the reach of all but the wealthier few. And the instruction is costly, for it has to be practical. And another source of expense is that the laboratory has not only to distribute knowledge, but to manufacture it. The duties of a university do not begin and end with the disciplinary and didactic. Besides schools of instruction, they must be schools of thought. To be this latter, the laboratory must pursue research. Even for the welfare of the class-teaching this is essential. Instructive lectures may be given by men of ability, the whole of whose knowledge is second-hand, but it is doubtful whether the real life of science can be fully felt and communicated by one who has not himself learnt by direct inquiry from nature. Nothing more augments the teacher's power of impressive and incisive teaching of a subject than to have faced problems in it himself as an original enquirer. And, after rudiments have been once fairly acquired, there is for good students no training equal to that given by following even a small research under an experienced leader.

So truly does the laboratory become a school of thought. Your laboratories are arranged with admirable provisions for research. The student should enter on his study of a natural science through the portal of its fundamental experiments. The attitude his mind thus takes is the true one—the only true one—for further insight into the subject. Too often humanistic studies at school have tended to kill the natural philosopher within him—that innate curiosity for facts, the healthy heritage of childhood. He leaves school a little book-man. Even as to the phenomena of nature, he has been insensibly led to ask for statements upon authority, rather than to turn his own senses and observation to the phenomena themselves. To learn a science or acquire an art resting upon sciences, the first thing to do is to look at the fundamental facts for yourself. Our great teachers of medicine teach upon this plan. They teach where they learned, not in the library, but from the bedside of the

sick. In laboratories such as those raised here for pathology and physiology and hygiene students can learn these sciences as medicine is learned in the hospital ward, by direct enquiry into the nature. The teachers you give them are men who have won widely recognized distinction as themselves direct enquirers into nature. Worthy students will appreciate the double boon their *alma mater* gives them—the means of learning at first hand those secrets of nature which lie at the root of his craft's skill—and to learn them under guidance by men who excel in unravelling such secrets.

Only by enabling men to continue their learning after their teaching is over can we secure the greatest advantage any educational system can afford. Your laboratories here will encourage post-graduate work. We look with keen interest to the researches that will flow from them. No subjects offer finer fields for research than do the progressive studies, physiology, pathology and hygiene, to which your new University buildings are consecrated. And of the functions of a laboratory, research is not the least costly. We in the Old Country find that. Our central Government has done little to support research. Our nation, proud of its success in things practical, has been prone to despise the abstract and the theoretical. We do so foolishly; we do so at our peril. Behind all practical application there is a region of intellectual action to which, though our practical men have contributed little, they owe the whole of their supplies. Theory, if a goose, is the goose of the fairy tale that lays the golden eggs. No more such eggs if once you let her die. To speak of theoretic knowledge slightingly is for the lips of the fool. The value of abstract research to a country is becoming more widely acknowledged among us than it was. Sir John Brunner said the other day, at Liverpool, that there was no better investment for a business man than the encouragement of scientific research, and that every penny of the wealth he possesses has come from the application of science to commerce and manufacture. And we find that munificent citizens have and do come forward among us and meet by their individual gifts the pressing needs in this respect of our community at large.

But we welcome a new era drawing on us. Liverpool, Birmingham, Sheffield, and other great centres, begin to regard the local University as an institution entitled to support from the public means, for instance, by subsidy from public rates. Such subsidies can be used also for studies which do not come within allotment from the smaller subsidy from the central Government: medicine, for instance. Proud of the young universities—to which yours of Toronto is a time-honored veteran—communities and local Governments are encouraging research within our universities. They do not expect such research to be able to pay

its own way, but they recognize that indirectly it does pay the community that gives it a home. They feel it a duty which they owe themselves. Is not the university a party of their own life, and is not research a part of the university's life blood? They feel it a right, due to their own higher selves. It stimulates progress. Supported by the large-handed sympathy of the community and the local Government, it means quicker advance, both material and mental, it means invention, and it means medical discovery. And *qui facit per alium facit per se*, is a motto worthy of a State.

What, then, are finally the uses of these laboratories now opened by your University? They will assist in training men for various honourable callings, especially for that most ancient one of medicine. They will assist, no doubt, also to render life by practical applications of science superficially still more different from what it was only a short generation ago. They will assist to bring home and distribute to your community treasures of knowledge from all the quarters of the globe. They will assist—and it is a thought dear to a high-spirited people—themselves to add to the sum total the treasures of knowledge of the whole human race. "Noblesse oblige" appeals to chivalrous nations, as well as to chivalrous individuals.

But their highest office seems to me, perhaps, not even these high ones, but a more difficult still. Genius cannot by any community, however wealthy and powerful, be made to order. In biblical language, it is the gift of God. All a community can do toward obtaining it, be our riches and willingness a thousandfold what they are, is to ensure the rare and glorious plant a meed of freedom, light and warmth for blossoming upon our soil. Who can doubt that in this population here genius exists—not sown, it is true, broadcast, for nowhere is it thus—yet existent, scattered up and down? This it is for the community to foster, to discover.

By help of these finely built and finished laboratories this much in one direction can be done. The problem to which a wise country turns is the discovery less of things than of men. By these laboratories, adequately supported, your community can create opportunity for the exercise of powers which come from sources within itself, but are utterly beyond its power to produce at will. Their loftiest function is creation of this opportunity. For that aim the studies in them must be followed with no single narrow technical purpose, but must be wide of scope and full of access to every rank of students. So shall these laboratories prove a corner-stone for the upbuilding of a temple of knowledge, and a touch-stone for the best ore of intellect within the bounds of this great land.

THE MASTER-WORD IN MEDICINE.*

By WILLIAM OSLER, M. D., F. R. S.

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I.

Before proceeding to the pleasing duty of addressing the undergraduates, as a native of this province and as an old student of this school, I must say a few words on the momentous changes inaugurated with this session, the most important perhaps, which have taken place in the history of the profession in Ontario. The splendid laboratories, which we saw opened this afternoon, a witness to the appreciation by the authorities of the needs of science in medicine, makes possible the highest standards of education in the subjects upon which our Art is based. They may do more. A liberal policy, with a due regard to the truth that the greatness of a school lies in brains not bricks, should build up a great scientific centre which will bring renown to this city and to your country. The men in charge of the departments are of the right stamp. See to it that you treat them in the right way by giving skilled assistance enough to ensure that the vitality of men who could work for the world is not sapped by the routine of teaching. One regret will, I know, be in the minds of many of my younger hearers. The removal of the departments of anatomy and physiology from the biological laboratory of the university breaks a connection which has had an important influence on medicine in this city. To Professor Ramsay Wright is due much of the inspiration which has made possible these fine new laboratories. For years he has encouraged in every way the cultivation of the scientific branches of medicine and has unselfishly devoted much time to promoting the best interests of the Medical Faculty. And in passing let me pay a tribute to the ability and zeal with which Dr. A. B. Macallum has won for himself a world-wide reputation by intricate studies which have carried the name of this University to every nook and corner of the globe where the science of physiology is cultivated. How much you owe to him in connection with the new buildings I need scarcely mention in this audience.

But the other event which we celebrate is of much greater importance. When the money is forthcoming it is an easy matter to join stone to stone in a stately edifice, but it is hard to find the market in which to buy the precious cement which can unite into an harmonious body the professors of medicine of two rival medical school in the same city. That

* An address to Medical Students on the occasion of the opening of the New Buildings of the Medical Faculty of the University of Toronto, Oct. 1, 1903.

this has been accomplished so satisfactorily is a tribute to the good sense of the leaders of the two faculties, and tells of their recognition of the needs of the profession in the province. Is it too much to look forward to the absorption or affiliation of the Kingston and London schools into the Provincial University? The day has passed in which the small school without full endowment can live a life beneficial to the students, to the profession or to the public. I know well of the sacrifice of time and money which is freely made by the teachers of those schools; and they will not misunderstand my motives when I urge them to commit suicide, at least so far as to change their organizations into clinical schools in affiliation with the central university, as part, perhaps, of a widespread affiliation of the hospitals of the province. A school of the first rank in the world, such as this must become, should have ample clinical facilities under its own control. It is as much a necessity that the professors of medicine and surgery, etc., should have large hospital services under their control throughout the year, as it is that professors of pathology and physiology should have laboratories such as those in which we here meet. It should be an easy matter to arrange between the provincial authorities and the trustees of the Toronto General Hospital to replace the present antiquated system of multiple small services by modern well equipped clinics—three in medicine and three in surgery to begin with. The increased efficiency of the service would be a substanial *quid pro quo*, but there would have to be a self-denying ordinance on the part of many of the attending physicians. With the large number of students in the combined school no one Hospital can furnish in practical medicine, surgery and the specialties a training in the art an equivalent of that which the student will have in the sciences in the new laboratories. An affiliation should be sought with every other hospital in the city and province of fifty beds and over, in each of which two or three extra-mural teachers could be recognized, who would receive for three or more months a number of students proportionate to the beds in the hospital. I need not mention names. We all know men in Ottawa, Kingston, London, Hamilton, Guelph and Chatham, who could take charge of small groups of the senior students and make of them good practical doctors. I merely throw out the suggestion. There are difficulties in the way; but is there anything in this life worth struggling for which does not bristle with them?

Students of Medicine: May this day be to each one of you, as it was to me when I entered this school thirty-five years ago, the beginning of a happy life in a happy calling. Not one of you has come here with such a feeling of relief as that which I experienced at an escape

from conic sections and logarithms and from Hooker and Pearson. The dry bones became clothed with interest, and I felt that I had at last got to work. Of the greater advantages with which you start I shall not speak. Why waste words on what you cannot understand. To those only of us who taught and studied in the dingy old building which stood near here is it given to feel to the full the change which the years have wrought, a change which my old teachers, whom I see here to-day—Dr. Richardson, Dr. Ogden, Dr. Thorburn and Dr. Oldright—must find hard to realize. One looks about in vain for some accustomed object on which to rest the eye in its backward glance—all, all are gone, the old familiar places. Even the landscape has altered, and the sense of loneliness and regret, the sort of homesickness one experiences on such occasions, is relieved by a feeling of thankfulness that at least some of the old familiar faces have been spared to see this day. To me at least the memory of those happy days is a perpetual benediction, and I look back upon the two years I spent at this school with the greatest delight. There were many things that might have been improved—and we can say the same of every medical school at that period—but I seem to have got much more out of it than our distinguished philosopher friend, J. Beattie Crozier, whose picture of the period seems rather hardly drawn. But after all, as someone has remarked, instruction is often the least part of an education, and, as I recall them, our teachers in their life and doctrine set forth a true and lively word to the great enlightenment of our darkness. They stand out in the background of my memory as a group of men whose influence and example were most helpful. In William R. Beaumont and Edward Mulberry Hodder, we had before us the highest type of the cultivated English surgeon. In Henry H. Wright we saw the incarnation of faithful devotion to duty—too faithful, we thought, as we trudged up to the eight o'clock lecture in the morning ; and in W. T. Aikins, a practical surgeon of remarkable skill and an ideal teacher for the general practitioner. How we wondered and delighted in the anatomical demonstrations of Dr. Richardson, whose infective enthusiasm did much to make anatomy the favorite subject among the students. I had the double advantage of attending the last course of Dr. Ogden and the first of Dr. Thorburn on materia medica and therapeutics. And Dr. Oldright had just begun his career of unselfish devotion to the cause of hygiene.

To one of my teachers I must pay in passing the tribute of filial affection. There are men here to-day who feel as I do about Dr. James Bovell—that he was one of those finer spirits, not uncommon in life, touched to finer issues only in a suitable environment. Would the Paul

of evolution have been Thomas Henry Huxley had the Senate elected this young naturalist to a chair in this university in 1851? Only men of a certain metal rise superior to their surroundings, and while Dr. Bovell had that all important combination of boundless ambition with energy and industry, he had that fatal fault of diffuseness, in which even genius is strangled. With a quadrilateral mind, which he kept spinning like a teetotum, one side was never kept uppermost for long at a time. Caught in the storm which shook the scientific world with the publication of the *Origin of Species*, instead of sailing before the wind, even were it with bare poles, he put about and sought a harbor of refuge in writing a work on Natural Theology, which you will find on the shelves of second-hand book shops in a company made respectable at least by the presence of Paley. He was an omnivorous reader and transmutor, he could talk pleasantly, even at times transcendentally, upon anything in the science of the day, from protoplasm to evolution; but he lacked concentration and that scientific accuracy which only comes with a long training (sometimes indeed never comes), and which is the ballast of the boat. But the bent of his mind was devotional, and early swept into the Tractarian movement, he became an advanced Churchman, a good Anglican Catholic. As he chaffingly remarked one day to his friend the Rev. Mr. Darling, he was like the waterman in Pilgrim's Progress rowing one way, towards Rome, but looking steadfastly in the other direction, towards Lambeth. His "Steps to the Altar" and his "Lectures on the Advent" attest the earnestness of his convictions; and later in life, following the example of Linacre, he took orders and became another illustration of what Cotton Mather calls the angelical conjunction of medicine with divinity. Then, how well I recall the keen love with which he would engage in metaphysical discussions, and the ardor with which he studied Kant, Hamilton, Reid and Mill. At that day to the Rev. Prof. Bevan was intrusted the rare privilege of directing the minds of the thinking youths at the Provincial University into proper philosophical channels. It was rumored that the hungry sheep looked up and were not fed. I thought so at least, for certain of them, led by T. Wesley Mills, came over daily after Dr. Bovell's four o'clock lecture to reason high and long with him

> "On Providence, Foreknowledge, Will and Fate
> Fixed Fate, Freewill, Foreknowledge absolute."

Yet withal his main business in life was as a physician, much sought after for his skill in diagnosis, and much beloved for his loving heart. He had been brought up in the very best practical schools. A pupil of

Bright and of Addison, a warm personal friend of Stokes and of Graves, he maintained loyally the traditions of Guy's and taught us to reverence his great masters. As a teacher he had grasped the fundamental truth announced by John Hunter of the unity of physiological and pathological processes, and, as became the occupant of the chair of the Institutes of Medicine, he would discourse on pathological processes in lectures on physiology, and illustrate the physiology of bioplasm in lectures on the pathology of tumors to the bewilderment of the students. When in September, 1870, he wrote to me that he did not intend to return from the West Indies I felt that I had lost a father and a friend; but in Robert Palmer Howard, of Montreal, I found a noble step-father, and to these two men and to my first teacher, the Rev. W. A. Johnson, of Weston, I owe my success in life,—if success means getting what you want and being satisfied with it.

II.

Of the value of an introductory lecture I am not altogether certain. I do not remember to have derived any enduring benefit from the many that I have been called upon to hear, or from the not a few that I have inflicted in my day. On the whole I am in favor of abolishing the old custom, but as this is a very special occasion, with special addresses, I consider myself most happy to have been selected for this part of the programme. To the audience at large I fear that much of what I have to say will appear trite and commonplace, but bear with me, since, indeed, to most of you how good so ever the word, the season is long past in which it could be spoken to your edification. As I glance from face to to face the most striking single peculiarity is the extraordinary diversity that exists among you. Alike in that you are men and white, you are unlike in your features, very unlike in your minds and in your mental training, and your teachers will mourn the singular inequalities in your capacities. And so it is sad to think what will be your careers; for one success, for another failure; one will tread the primrose path to the great bon-fire, another the straight and narrow way to renown; some of the best of you will be stricken early on the road, and will join that noble band of youthful martyrs who loved not their lives to the death; others, perhaps the most brilliant among you, like my old friend and comrade, Dick Zimmerman (how he would have rejoiced to see this day!), the Fates will overtake and whirl to destruction just as success seems assured. When the iniquity of oblivion has blindly scattered her poppy over us, some of you will be the trusted counsellors of this community, and the heads of departments in this Faculty; while for the large

majority of you, let us hope, is reserved the happiest and most useful lot given to man—to become vigorous, whole-souled, intelligent general practitioners.

It seems a bounden duty on such an occassion to be honest and frank, so I propose to tell you the secret of life as I have seen the game played, and as I have tried to play it myself. You remember in one of the Jungle Stories that when Mowgli wished to be avenged on the Villagers he could only get the help of Hathi and his sons by sending them the master-word. This I propose to give you in the hope, yes, in the full assurance, that some of you at least will lay hold upon it to your profit. Though a little one, the master-word looms large in meaning. It is the open sesame to every portal, the great equalizer in the world, the true philosopher's stone which transmutes all the base metal of humanity into gold. The stupid man among you it will make bright, the bright man brilliant and the brilliant student steady. With the magic word in your heart all things are possible,and without it all study is vanity and vexation. The miracles of life are with it; the blind see by touch, the deaf hear with eyes, the dumb speak with fingers. To the youth it brings hope, to the middle-aged confidence, to the aged repose. True balm of hurt minds, in its presence the heart of the sorrowful is lightened and consoled. It is directly responsible for all advances in medicine during the past twenty-five centuries. Laying hold upon it, Hippocrates made observation and science the warp and woof of our art. Galen so read its meaning that fifteen centuries stopped thinking and slept until awakened by the *De Fabrica* of Vesalius, which is the very incarnation of the master-word. With its inspiration Harvey gave an impulse to a larger circulation than he wot of, an impulse which we feel to-day. Hunter sounded all its heights and depths, and stands out in our history as one of the great exemplars of its virtues. With it Virchow smote the rock and the waters of progress gushed out; while in the hands of Pasteur it proved a very talisman to open to us a new heaven in medicine and a new earth in surgery. Not only has it been the touchstone of progress, but it is the measure of success in every day life. Not a man before you but is beholden to it for his position here, while he who addresses you has that honor directly in consequence of having had it graven on his heart when he was as you are to-day. And the Master-word is *Work*. a little one, as I have said, but fraught with momentous sequences if you can but write it on the tables of your heart, and bind it upon your fore-heads. But there is a serious difficulty in getting you to understand the paramount importance of the work-habit as part of your organization. You are not far from the Tom Sawyer

stage with its philosophy "that work consists of whatever a body is obliged to do and that play consists of whatever a body is not obliged to do."

A great many hard things may be said of the work-habit. For most of us it means a hard battle; the few take to it naturally; the many prefer idleness and never learn to love to labor. Listen to this: "Look at one of your industrious fellows for a moment, I beseech you," says Robert Louis Stevenson. "He sows hurry and reaps indigestion; he puts a vast deal of activity out to interest, and receives a large measure of nervous derangement in return. Either he absents himself entirely from all fellowship, and lives a recluse in a garret, with carpet slippers and a leaden inkpot; or he comes among people swiftly and bitterly, in a contraction of whole nervous system, to discharge some temper before he returns to his work. I do not care how much or how well he works, this fellow is an evil feature in other people's lives." These are the sentiments of an overworked, dejected man; let me quote the motto of his saner moments: "To travel hopefully is better than to arrive, and the true success is in labor." If you wish to learn of the miseries of scholars in order to avoid them, read Part I, Section 2, Member 3, Subsection XV of that immortal work, the Anotomy of Melancholy, but I am here to warn you against these evils, and to entreat you to form good habits in your student days.

At the outset appreciate clearly the aims and objects each one of you should have in view—a knowledge of the disease and its cure, and a knowledge of yourselves. The one, a special education, will make you a practitioner of medicine; the other, an inner education, may make you a truly good man, four square and without a flaw. The one is extrinsic and is largely accomplished by teacher and tutor, by text and by tongue; the other is intrinsic and is the mental salvation to be wrought out by each one for himself. The first may be had without the second; any one of you may become an active practitioner, without ever having had sense enough to realize that through life you have been a fool; or you may have the second without the first, and, without knowing much of the art, you may have endowments of head and heart that make the little you do possess go very far in the community. With what I hope to infect you is a desire to have a due proportion of each.

So far as your professional education is concerned, what I shall say may make for each one of you an easy path easier. The multiplicity of the subjects to be studied is a difficulty, and it is hard for teacher and student to get a due sense of proportion in the work. We are in a transition stage in our methods of teachings, and have not everywhere got

away from the idea of the examination as the 'be-all and the end-all;' so that the student has constantly before his eyes the magical letters of the degree he seeks. And this is well, perhaps, if you will remember that having, in the old phrase, commenced Bachelor of Medicine, you have only reached a point from which you can begin a life-long process of education.

So many and varied are the aspects presented by this theme that I can only lay stress upon a few of the more essential. The very first step towards success in any occupation is to become interested in it. Locke put this in a very happy way when he said, give a pupil 'a relish of knowledge' and you put life in his work. And there is nothing more certain than that you cannot study well if you are not interested in your profession. Your presence here is a warrant that in some way you have become attracted to the study of medicine, but the speculative possibilities so warmly cherished at the outset are apt to cool when in contact with the stern realities of the class-room. Most of you have already experienced the all-absorbing attraction of the scientific branches, and nowadays the practical method of presentation has given a zest which was usually lacking in the old theoretical teaching. The life has become more serious in consequence, and medical students have put away many of the childish tricks with which we used to keep up their bad name. Compare the picture of the 'sawbones' of 1842, as given in the recent biography of Sir Henry Acland, with their representatives to-day, and it is evident a great revolution has been effected, and very largely by the salutary influences of improved methods of education. It is possible now to fill out a day with practical work, varied enough to prevent monotony, and so arranged that the knowledge is picked out by the student himself, not thrust into him, willy-nilly, at the point of the tongue. He exercises his wits, and is no longer a passive Strassbourg goose, tied up and stuffed to repletion.

How can you take the greatest possible advantage of your capacities with the least possible strain? By cultivating system. I say cultivating advisedly, since some of you will find the acquisition of systematic habits very hard. There are minds congenitally systematic; others have a life long fight against an inherited tendency to diffuseness and carelessness in work. A few brilliant fellows try to dispense with it altogether, but they are a burden to their brethren and a sore trial to their intimates. I have heard it remarked that order is the badge of an ordinary mind. So it may be, but as practitioners of medicine we have to be thankful to get into this useful class. Let me entreat those of you who are here for the first time to lay to heart what I say on

this matter. Forget all else, but take away this counsel of a man who has had to fight a hard battle, and not always a successful one, for the little order he has had in his life, take away with you a profound conviction of the value of system in your work. I appeal to the freshmen, especially, because you to-day make a beginning, and your future career depends very much upon the habits you will form during this session. To follow the routine of the classes is easy enough, but to take routine into every part of your daily life is a hard task. Some of you will start out joyfully as did Christian and Hopeful, and for many days will journey safely toward the Delectable Mountains, dreaming of them and not thinking of disaster until you find yourselves in the strong captivity of Doubt and under the grinding tyranny of Despair. You have been over-confident. Begin again and more cautiously. No student escapes wholly from these perils and trials; be not disheartened, expect them. Let each hour of the day have its allotted duty, and cultivate the power of concentration which grows with its exercise, so that the attention neither flags nor wavers, but settles with a bull-dog tenacity on the subject before you. Constant repetition makes a good habit fit easily in your mind, and by the end of the session you may have gained that most precious of all knowledge—the power to work. Do not underestimate the difficulty you will have in wringing from your reluctant selves the stern determination to exact the uttermost minute on your schedule. Do not get too interested in one study at the expense of another, but so map out your day that due allowance is given to each. Only in this way can the average student get the best that he can out of his capacities. And it is worth all the pains and trouble he can possibly take for the ultimate gain—if he can reach his doctorate with system so ingrained that it has become an integral part of his being. The artistic sense of perfection in work is another much to be desired quality to be cultivated. No matter how trifling the matter on hand, do it with a feeling that it demands the best that is in you, and when done look it over with a critical eye, not sparing a strict judgment of yourself. This it is that makes anatomy a student's touch-stone. Take a man who does his 'part' to perfection, who has got out all there is in it, who labors over the tags of connective tissue and who demonstrates Meckel's ganglion in his part—this is the fellow in after years who is apt in emergencies, who saves a leg badly smashed in a railway accident, or fights out to the finish, never knowing when he is beaten, in a case of typhoid fever.

Learn to love the freedom of the student life, only too quickly to pass away; the absence of the coarser cares of after days, the joy in comradeship, the delight in new work, the happiness in knowing that

you are making progress. Once only can you enjoy these pleasures. The seclusion of the student life is not always good for a man, particularly for those of you who will afterwards engage in general practice, since you will miss that facility of intercourse upon which often the doctor's success depends. On the other hand sequestration is essential for those of you with high ambitions proportionate to your capacity. It was for such that St. Chrysostom gave his famous counsel, "Depart from the highways and transplant thyself into some enclosed ground, for it is hard for a tree that stands by the wayside to keep its fruit till it be ripe."

Has work no dangers connected with it? What of this bogie of overwork of which we hear so much? There are dangers, but they may readily be avoided with a little care. I can only mention two, one physical, one mental. The very best students are often not the strongest. Ill-health, the bridle of Theages, as Plato called it in the case of one of his friends whose mind had driven at the expense of his body, may have been the diverting influence towards books or the profession. Among the good men who have studied with me there stand out in my remembrance many a young Lycidas, 'dead ere his prime,' sacrificed to carelessness in habits of living and neglect of ordinary sanitary laws. Medical students are much exposed to infection of all sorts, to combat which the body must be kept in first class condition. Grossteste, the great Bishop of Lincoln, remarked that there were three things necessary for temporal salvation—food, sleep, and a cheerful disposition. Add to these suitable exercise and you have the means by which good health may be maintained. Not that health is to be a matter of perpetual solicitation, but habits which favour the *corpus sanum* foster the *mens sana*, in which the joy of living and the joy of working are blended in one harmony. Let me read you a quotation from old Burton, the great authority on *morbi eruditorum*. There are "many reasons why students dote more often than others. The first is their negligence; other men look to their tools, a painter will wash his pencils, a smith will look to his hammer, anvil, forge; a husbandman will mend his plough-irons, and grind his hatchet if it be dull; a falconer or huntsman will have an especial care of his hawks, hounds, horses, dogs, &c.; a musician will string and unstring his lute, &c.; only scholars neglect that instrument, their brain and spirits (I mean) which they daily use."*

Much study is not only believed to be a weariness of the flesh, but also an active cause of ill-health of mind, in all grades and phases. I deny that work, legitimate work, has anything to do with this. It is that foul fiend Worry who is responsible for a large majority of the

* Quotation mainly from Marsilius Ficinus.

cases. The more carefully one looks into the causes of nervous breakdown in students, the less important is work *per se* as a factor. There are a few cases of genuine overwork, but they are not common. Of the causes of worry in the student life there are three of prime importance to which I may briefly refer.

An anticipatory attitude of mind, a perpetual forecasting disturbs the even tenor of his way and leads to disaster. Years ago a sentence in one of Carlyle's essays made a lasting impression on me: "Our duty is not to *see* what lies dimly at a distance, but to *do* what lies clearly at hand." I have long maintained that the best motto for a student is, "Take no thought for the morrow" Let the day's work suffice; live for it, regardless of what the future has in store, believing that to-morrow should take thought for the things of itself. There is no such safeguard against the morbid apprehensions about the future, the dread of examinations and the doubt of ultimate success. Nor is there any risk that such an attitude may breed carelessness. On the contrary the absorption in the duty of the hour is in itself the best guarantee of ultimate success. "He that regardeth the wind shall not sow, and he that observeth the clouds shall not reap," which means you cannot work profitably with your mind set upon the future.

Another potent cause of worry is an idolatry by which many of you will be sore let and hindered. The mistress of your studies should be the heavenly Aphrodite, the motherless daughter of Uranus. Give her your whole heart, and she will be your protectress and friend. A jealous creature, brooking no second, if she finds you trifling and coquetting with her rival, the younger, earthly Aphrodite, daughter of Zeus and Dione, she will whistle you off and let you down the wind to be a prey, perhaps to the examiners, certainly to the worm regret. In plainer language, put your affections in cold storage for a few years, and you will take them out ripened, perhaps a bit mellow, but certainly less subject to those frequent changes which perplex so many young men Only a grand passion, an all-absorbing devotion to the elder goddess can save the man with a congenital tendency to philandering, the flighty Lydgate who sports with Celia and Dorothea, and upon whom the judgment ultimately falls in a basil-plant of a wife like Rosamond.

And thirdly, one and all of you will have to face the ordeal of every student in this generation who sooner or later tries to mix the waters of science with the oil of faith. You can have a great deal of both if you only keep them separate. The worry comes from the attempt at mixture. As general practitioners you will need all the faith you can carry, and while it may not always be of the conventional pattern, when expressed

in your lives rather than on your lips, the variety is not a bad one from the standpoint of St. James; and may help to counteract the common scandal alluded to in the celebrated diary of that gossipy old parson-doctor, the Rev. John Ward: "One told the Bishop of Gloucester that he imagined physitians of all other men the most competent judges of all others affairs of religion—and his reason was because they were wholly unconcerned with it."

III.

Professional work of any sort tends to narrow the mind, to limit the point of view and to put a hall-mark on a man of a most unmistakable kind. On the one hand are the intense, ardent natures, absorbed in their studies and quickly losing interest in everything but their profession while other faculties and interests 'fust' unused. On the other hand are the bovine brethren, who think of nothing but the treadmill and the corn. From very different causes, the one from concentration, the other from apathy, both are apt to neglect those outside studies that widen the sympathies and help a man to get the best there is out of life. Like art, medicine is an exacting mistress, and in the pursuit of one of the scientific branches, sometimes, too, in practice, not a portion of a man's spirit many be left free for other distractions, but this does not often happen. On account of the intimate personal nature of his work, the medical man, perhaps more freely than any other man, needs that high education of which Plato speaks,—"that education in virtue from youth upwards, which enables a man eagerly to pursue the ideal perfection." It is not for all, nor can all attain to it, but there is comfort and help in the pursuit, even though the end is never reached. For a large majority the daily round and the common task furnish more than enough to satisfy their heart's desire, and there seems no room left for anything else. Like the good, easy man whom Milton scores in the Areopagitica, whose religion was a "traffic so entangled that of all mysteries he could not skill to keep a stock going upon that trade" and handed it over with all the locks and keys to "a divine of note and estimation," so is it with many of us in the matter of this higher education. No longer intrinsic, wrought in us and ingrained, it has become, in Milton phrase a 'dividual movable,' handed over nowadays to the daily press or to the hap-hazard instruction of the pulpit, the platform or the magazines. Like a good many other things, it comes in a better and more enduring form if not too consciously sought. The all-important thing is to get a relish for the good company of the race in a daily intercourse with some of the great minds of all ages. Now, in the

springtime of life, pick your intimates among them, and begin a systematic cultivation of their works. Many of you will need a strong leaven to raise you above the level of the dough in which it will be your lot to labor. Uncongenial surroundings, an ever-present dissonance between the aspirations within and the actualities without, the oppressive discords of human society, the bitter tragedies of life, the *lacrymae rerum*, beside the hidden springs of which we sit in sad despair—all these tend to foster in some natures a cynicism quite foreign to our vocation, and to which this inner education offers the best antidote. Personal contact with men of high purpose and character will help a man to make a start—to have the desire, at least, but in its fulness this culture—for that word best expresses it—has to be wrought out by each one for himself. Start at once at a bed-side library and spend the last half hour of the day in communion with the saints of humanity. There are great lessons to be learned from Job and from David, from Isaiah and St. Paul. Taught by Shakespeare you may take your intellectual and moral measure with singular precision. Learn to love Epictetus and Marcus Aurelius. Should you be so fortunate as to be born a Platonist. Jowett will introduce you to the great master through whom alone we can think in certain levels, and whose perpetual modernness startles and delights. Montaigne will teach you moderation in all things, and to be "sealed of his tribe" is a special privilege. We have in the profession only a few literary heroes of the first rank, the friendship and counsel of two of whom you cannot too earnestly seek. Sir Thomas Browne's *Religio Medici* should be your pocket companion, while from the Breakfast Table Series of Oliver Wendell Holmes you can glean a philosophy of life peculiarly suited to the needs of a physician. There are at least a dozen or more works which would be helpful in getting that wisdom in life which only comes to those who earnestly seek it.

A conscientious pursuit of Plato's ideal perfection may teach you the three great lessons of life. You may learn to consume your own smoke. The atmosphere of life is darkened by the murmurings and whimperings of men and women over the non-essentials, the trifles that are inevitably incident to the hurly burly of the day's routine. Things cannot always go your way. Learn to accept in silence the minor aggravations, cultivate the gift of taciturnity and consume your own smoke with an extra draught of hard work, so that those about you may not be annoyed with the dust and soot of your complaints. More than any other the practitioner of medicine may illustrate the second great lesson, that we are here not to get all we can out of life for ourselves, but to try to make the lives of others happier. This is the essence of that

oft-repeated admonition of Christ, "He that findeth his life shall lose it, and he that loseth his life for my sake shall find it," on which hard saying if the children of this generation would only lay hold, there would be less misery and discontent in the world. It is not possible for any one to have better opportunities to live this lesson than you will enjoy. The practice of medicine is an art, not a trade, a calling, not a business, a calling in which your heart will be exercised equally with your head. Often the best part of your work will have nothing to do with potions and powders, but with the exercise of an influence of the strong upon the weak, of the righteous upon the wicked, of the wise upon the foolish. To you as the trusted family counsellor the father will come with his anxieties, the mother with her hidden grief, the daughter with her trials and the son with his follies. Fully one-third of the work you do will be entered in other books than yours. Courage and cheerfulness will not only carry you over the rough places of life, but will enable you to bring comfort and help to the weak-hearted and will console you in the sad hours when, like Uncle Toby, you have "to whistle that you may not weep."

And the third great lesson you may learn is the hardest of all—that the law of the higher life is only fulfilled by love or charity. Many a physician whose daily work is a daily round of beneficence will say hard things and will think hard thoughts of a colleague No sin will so easily beset you as uncharitableness towards your brother practitioner. So strong is the personal element in the practice of medicine, and so many are the wagging tongues in every parish, that evil speaking, lying and slandering find a shining mark in the lapses and mistakes which are inevitable in our work. There is no reason for discord and disagreement, and the only way to avoid trouble is to have two plain rules. From the day you begin practice never under any circumstances listen to a tale told to the detriment of a brother practitioner. And when any dispute or trouble does arise, go frankly, ere sunset, and talk the matter over, in which way you may gain a brother and a friend. Very easy to carry out, you may think! Far from it; there is no harder battle to fight. Theoretically there seems to be no difficulty, but when the concrete wound is rankling and after Mrs. Jones has rubbed in the cayenne pepper by declaring that Dr. J. told her in confidence of your shocking bungling, your attitude of mind is that you would rather see him in purgatory than make advances towards reconciliation. Wait until the day of your trial comes and then remember my words.

And in closing may I say a few words to the younger practitioners in the audience whose activities will wax not wane with the growing

years of the century which opens so auspiciously for this school, for this city and for your country. You enter a noble heritage, made by no efforts of your own, but by the generations of men who have unselfishly sought to do the best they could for suffering mankind. Much has been done, much remains to do; a way has been opened, and to the possibilities in the scientific development of medicine there seems to be no limit. Except in its application, as general practitioners you will not have much to do with this. Yours is a higher and a more sacred duty. Think not to light a light to shine before men that they may see your good works; contrariwise, you belong to the great army of quiet workers, physicians and priests, sisters and nurses, all over the world, the members of which strive not neither do they cry, nor are their voices heard in the streets, but to them is given the ministry of consolation in sorrow, need and sickness. Like the ideal wife of whom Plutarch speaks, the best doctor is often the one of whom the public hears least; but nowadays in the fierce light that beats upon the hearth it is increasingly difficult to live the secluded life in which our best work is done. To you the silent workers of the ranks, in villages and country districts, in the slums of our large cities, in the mining camps and factory towns, in the homes of the rich and in the hovels of the poor—to you is given the harder task of illustrating in your lives the old Hippocratic standards of Learning, of Sagacity, of Humanity and of Probity. Of learning that you may apply in your practice the best that is known in our art, and that with the increase in your knowledge there may be an increase in that priceless endowment of Sagacity, so that to all everywhere skilled succor may come in the hour of urgent need. Of a Humanity that will show in your daily life tenderness and consideration to the weak, infinite pity to the suffering and broad charity to all. Of a probity that will make you under all circumstances true to yourselves, true to your high calling and true to your fellow men.

AN ADDRESS ON RECEIVING THE DEGREE OF LL.D. (HONORIS CAUSA) FROM THE UNIVERSITY OF TORONTO, OCTOBER 2.

By W. W. KEEN, M.A., M.D., LL.D.,
Professor of Surgery, Jefferson Medical College, Philadelphia.

MR. VICE-CHANCELLOR, Mr. President, students of the Medical Department of the University of Toronto. Ladies and gentlemen:—

I thank you most sincerely for the unexpected honor of this degree, an honor which I shall always remember with the greatest pleasure. In doing so, it gives me great pleasure to join my congratulations with those which

have been so happily expressed by others of your honored guests upon the erection of your new building for physiology, physiological chemistry, pathology, and public health. These branches of medicine, with anatomy, which already has an admirable home, are fundamental, and the progress of medicine, surgery, obstetrics, and all the specialties is conditioned, first of all, upon progress in these departments.

The laws governing the action of all forces,—such as power when applied by the lever, the pulley, the inclined plan, or the screw, the forces of heat, light, electricity, magnetism, and steam—are first discovered. Then come the practical applications of these forces through machines by which we can use them. In the wake of such theoretical knowledge have come the balance, the printing press, the steam engine, the locomotive, the dynamo, the trolley, the telegraph, the telephone, etc. These are the machines which minister to civilization and have transformed modern life. Were it not for the unwearied theoretical study in the laboratory, by which the abstruse laws governing these forces have been discovered and accurately stated, we should be groping in the dark and wasting our time, our money and our opportunities. In 1903, we would be as our fathers were in 1803. Just so in medicine. The same patient laboratory workers must be encouraged by the facilities which you have now provided for them to solve the problems of physiology, that is the study of the various organs in their normal condition, of pathology, that is the study of the various organs in diseased conditions, the complex reactions of chemistry, which, in the future, far more than in the past, will aid us both in physiology and pathology, and of public health, which will diminish the suffering, promote the well being, and prolong the lives of the entire community.

You have provided now the external physical conditions for successful study. The intelligent young man around you, yearning for distinguished careers in science, will be swift to take advantage of such splendid opportunities, and will be the best guarantee that the moral and intellectual conditions shall equal the physical.

Those not wholly familiar with progress of medicine in the last two or three decades may think, in view of the enormous and well known progress made by medicine, surgery and bacteriology, that medical science may have reached its limits, and may wonder whether there are any other worlds to conquer.

Worlds to conquer? Aye! scores of them! The solution of each problem does but reveal two or three new ones; increase of knowledge but shows us how little we really know. Prof. Welch's Huxley lecture, which disclosed the marvelous progress made in the study of immun-

ity, showed a still larger world of the unknown which must be subdued. The surgeon longs for such an intimate knowledge of sepsis as will enable him to convert an already septic wound into an aseptic wound ; and that the cause and then the cure of cancer, and other similar diseases, may be vouchsafed to him ; the physician is seeking for the germs of scarlet fever, typhus fever, chicken pox, whooping cough, measles ; the pathologist is questioning the blood and slowly compelling it to disclose the secret foes and friends of health floating in its crimson tide ; the physiologist is investigating the internal secretions and the therapeutist is experimenting upon the various antitoxins and immunizing serums. The darkness of the night of ignorance is gradually fading, the dawn is lighting up the eastern sky, some day the glorious sun of complete knowledge will appear above the horizon to flood the world with its bright rays.

But you need more than these fundamental branches, without which no progress could be made. The "final cause," the ultimate reason for the existence of the doctor is to alleviate suffering and cure disease. When well grounded in the fundamental branches, for which you have now made provision, he must learn how to apply this knowledge to actual sick and suffering men, women, and children. How shall he learn to do this ? It must either be from lectures and books, when he hears and reads about disease ; or by coming directly in contact with disease itself in living, but suffering men, women, and children. Which method shall be adopted ?

You have bought a fine watch, locomotive, a steam yacht, or have built a costly electrical plant. You seek a skilled watchmaker to repair your watch, or you want to engage an engineer to run one of those complicated machines. Which will you choose, the watch-maker or the engineer who has only listened to lectures and read books on watch-making, electricity, steam, the dynamo, the locomotive and ships' engines ; or the man who has not only become theoretically familiar with their construction, but has actually handled them till every part is as familiar as his own bed-room, who has taken them apart and put them together again scores of times, and has healed sick watches and cured sick engines ? To ask the question is to answer it. Will you do better by your watches, your engines, your yacht, your electrical plant, which only cost money, than by your bodies, which are indissolubly bound up with your very lives and the happiness of those dearer to you than your own lives ?

The great daily laboratory of the medical profession is the sick room. To be equal to his task, therefore, the doctor, even when he

graduates, must be familiar with actual patients and not be compelled to learn by blunders, the penalty for which is paid by his patients in shattered health or tedious convalescence, or by ghastly mistakes, each of which has cost a life. You must, therefore, provide a complete university hospital in which hundreds of the sick and suffering will find relief at the hands of your devoted and skilful faculty and at the same time afford the students the occasion for study and observation, for case taking, for dressing of wounds, and for clinical and bacteriological examinations, and so learn the chameleon phases of disease, the means of cure, and the methods of operating. This hospital must have also not only its wards for those actually sick or dangerously injured, but a large out-patient department for every specialty, for those whose illness, or accident, or injury does not require them to leave their homes and their families and enter a hospital, but who can be cared for by simply visiting the hospital at suitable intervals. Here the minor accidents and ailments may be early and easily cured, and so prevented from threatening life or limb. In these out-patient departments, your students will see all the usual forms of disease and be trained in their proper treatment.

It is sometimes objected by those who are not familiar with the real facts, that this method of actual bedside instruction does harm to the sick. May I quote in reply what I said in an address to the Congress of American Physicians and Surgeons last May? "I speak after an experience of nearly forty years as surgeon to half a dozen hospitals, and I can confidently say that I have never known a *single patient* injured or his chances of recovery lessened by such teaching. Moreover, who will be least slovenly and careless in his duties, he who prescribes in the solitude of the sick chamber, or operates with two or three assistants only, or he whose every movement is eagerly watched by hundreds of eyes, alert to detect every false step, the omission of an important clinical laboratory investigation, the neglect of the careful examination of the back as well as of the front of chest, the failure to detect any important physical sign or symptom? Who will be most certain to keep up with the progress of medical science, he who works alone with no one to discover his ignorance; or, he who is surrounded by a lot of bright young fellows who have read the last Lancet, or the newest Annals of Surgery, and can trip him up if he is not abreast of the times? I always feel at the Jefferson Hospital as if I were on the run with a pack of lively dogs at my heels. I cannot afford to have the youngsters familiar with operations, the means of investigations, or the newer methods of treatment of which I am ignorant. I must perforce study, read, catalogue, and remember; or give place to others who will. Stud-

ents are the best whip and spur I know." The poorest charity patent in a hospital often has his disease more thoroughly investigated and has a better chance of recovery than a well-to-do or even rich patient because a hospital affords the means for such complicated investigations which are not possible in private practice.

Such a hospital and out-patient department should be under the control of the trustees and faculty,and all its beds should be wholly given up to the teaching faculty as much friction will thus be avoided; the professors of medicine, surgery and other branches will be the physicians surgeons &c. to the hospital of right and not by courtesy,and the didactic instruction in the college and the clinical instruction in the hospital will be most advantageously correlated. College, hospital, out-patient department, and laboratory are all parts of one great medical machine. Cut off or dislocate one and all are crippled ; the education of your own family physicians, your surgeons, your obstetricians, and your specialists, is marred ; and you, men and women of Toronto, and your children, and all of Canada, will suffer.

One more thing is needed to carry out this scheme completely—large endowments. Modern medical teaching is excessively expensive, because it has become so largely individual instead of to great classes, and so the teaching force has had to be enormously increased ; and because it is chiefly in the laboratory which demands expensive buildings, costly equipment, and still more costly instructors. Has it ever occurred to you that universities are the only bodies which sell their wares below cost? Railroads, industrial plants, merchants, all sell their goods for cost plus 5, 10, or 20 per cent, which represents their profit. Unversities sell theirs for 25 to 50 per cent less than cost, which represents their actual loss in money. Hence the $10,000,000 for the Medical Department of Harvard, the $7,000,000 for the Medical Department of Chicago, the $2,000,000 given to the Medical Department of Columbia University, the $7,000,000 for Johns Hopkins, the millions so freely given to McGill University. Universities and medical schools must have large endowments, either from generous friends or from the Government. The former have shown their interest in this University by large gifts. It now rests with the government to help you either by annual grants or by additional endowments. I feel the more at liberity to urge this before a British audience, because Sir Norman Lockyer, as President of the British Association for the Advancement of Science spoke in clarion tones but a few weeks ago in support of this same idea and showed its urgent need in Great Britain. It is no less urgent in Canada. Liberal aid to universities and technical schools, including pre ëminently the

medical schools, is one of the wisest and most profitable investments a government can make and will most surely meet with popular approval. The profits on the formerly wasted coal tar products alone have more than repaid Germany all her vast grants to her chemical laboratories in which the methods of utilizing this waste were discovered; and the pre-eminence of Germany in medical research has been maintained by similar expenditures upon her medical schools. Why should not the familiar label "Made in Germany" be replaced by "Made in Canada?"

THE TECHNIQUE OF GASTRO-ENTEROSTOMY.*

By THEODORE A. McGRAW, M.D.

IN the practice of surgery the field of intestinal anastomosis is becoming daily enlarged and the questions connected with it more and more important. These questions are necessarily viewed by the general practitioner and the surgeon from very different standpoints and the physician, whose ultra-conservatism is regarded by the operator with disfavor, is inclined on his part to consider the surgeon too impatient and reckless. It is in such general assemblies as this, that all such matters may be discussed with advantage and we may all hope by a frank interchange of views to arrive at rational conclusions as regards practice. In this paper I seek to give, as impartially as I may be able, the principles which should govern the surgeon in his work in this particular field. There are four classes of cases, which may make intestinal anastomosis necessary. They are, first, the various kinds of intestinal obstructions; second, inflammations and ulcerations in the alimentary tract; third, displacement of the viscera; and, fourth, intestinal fistulæ. The first class is by far the largest in numbers and the most important.

We may divide the intestinal obstructions into those which are acute and those which are chronic. Of the acute obstructions I shall have little to say in this connection. The most of them when operated on in an early stage can be relieved by simpler operative methods. The intersusceptions may be drawn apart, the volvulus untwisted, the binding cord cut, and the hernias reduced. The question of anastomosis comes in for consideration only when the gut has become gangrenous. In such cases, the surgeon has a choice of a variety of procedures none of which is very promising.

He may immediately cut off the mortified coil and make either an end to end or lateral junction of the severed ends. This operation on the nearly moribund patient is only occasionally successful. It is diffi-

* Read at the Canadian Medical Association, London, August 25 to 28.

cult to determine the extent of bowel which must be sacrificed, and the surgeon is obliged either to excise a long piece of the gut or to operate on a tissue that is inflamed, soft and uncertain. Sutures are apt to cut through such tissues and permit an extravasation of fæces. Many surgeons prefer to fasten the diseased coil in the abdominal wound and leave it to nature, in hope that the patient may recover sufficiently to permit a secondary operation for the resulting anus.

I venture to suggest a combination of these methods which I have tried in one fatal case and which seems to me to offer the best hope for the patient in my procedure.

The surgeon draws the gangrenous coil out of the abdomen far enough to permit him to unite the two limbs of the bowel at a point where they seem healthy, by means of a rubber ligature. This requires very little time and causes no shock. All of that part which is liable to slough is then fastened outside of the abdomen and the wound closed around it. The immediate result is a false anus through which the intestine may relieve itself of its contents and, when we consider the character of those contents, we may hardly doubt that it is better that they should be discharged by the shortest and quickest route. At the end of two or three days, a new channel has been cut by the rubber ligature and the false anus becomes unnecessary; it may then in time close spontaneously, or be closed by the simple operation of inverting and suturing the ends. In this way we may escape both the great dangers of an immediate excision with an end to end anastomosis, and the severe secondary operation for the cure of an active false anus. The closure of the fistula, when a free communication exists between the two segments of bowel above it, would hardly require the opening of the abdominal cavity. Most physicians recognize the necessity of surgical procedures in cases of acute obstruction, although they are often too slow in arriving at a positive diagnosis. This is, unfortunately, not the case with those chronic forms of obstruction which furnish the largest quota of cases which require the formation of intestinal anastomosis. I do not know why it is that the general practitioner evinces so much repugnance to operations on the very class of cases in which operations give the most brilliant results. Cases of obstruction of a chronic nature differ from the acute obstructions inasmuch as they are, during a comparatively long period, partial in character—their symptoms develop gradually and they give to the competent observer long notice of the coming closure. For this reason the physician is enabled to study the conditions and to prepare, if he only will, for the coming disaster. To the surgeon, who is permitted to operate before the case has become

desperate, a field is presented for operation which is free from inflammation, sepsis, or gangrene. Stenoses of this character are most commonly caused by tumors or cicatricial contractions. The symptoms vary according to the seat of the obstruction and have to be studied therefore with especial relation to their location. When diagnosticating any given case, we have to note the intensity and character of the pain or distress produced by the disease, the changes which take place in the form, size and feel of the abdomen, the location of any abdominal swelling, the degree of tolerance with which contents are allowed to accumulate before serious symptoms supervene, and the character of the vomit when it occurs. The movements of the viscera, seen as they affect the abdominal wall, and the gurgle of the fluids as they pass the point of stenosis will also in some cases afford positive evidence as to the seat of the disorder. We may become best acquainted with the import of symptoms if we study them in turn as they appear in the obstructions of the separate portions of the alimentary canal from the stomach down. A pyloric obstruction will often end in death before the channel is obliterated. It is not at all uncommon to find on post-mortems that death has taken place from a pyloric tumor, in which the pyloric orifice is still large enough to admit the finger or even the thumb, the patient having died, nevertheless, from inanition due to the inability of the viscus to force its contents into the duodenum.

The explanation of this fact is simple. Under normal conditions the chyme is forced out of the stomach by rythmical contractions of its muscular fibres, associated and in unison with a relaxation of the circular fibres which close the pylorus.

It is, in fact, a very complicated process, involving many nerves and muscles, by which small portions of the digested food are forced intermittingly into the duodenum. When the duodenum is filled, the further evacuation of the stomach is inhibited.

Now any malady which interferes with this delicate mechanism may prevent the passage of chyme and cause vomiting. A pyloric tumor or cicatrix may do so by preventing the rythmical expansion of the pyloric fibres, or by causing a change in the direction of the vermicular motion, or by thrusting a mechanical obstacle before the coming bolus which will divert its course. So, too, the adhesions around such a diseased segment will prevent the free motion of the gut or even cause a positive obstruction by producing a bend in the bowel.

Now, the first symptom produced by a beginning pyloric obstruction is one of irritation. The patient complains of indigestion and has eructations of gas. These symptoms increase in intensity as the disease

progresses, and sooner or later he begins to vomit. The stomach, unable to dispose of its contents, becomes distended and prolapsed. The pain becomes more intense and the vomit, which has at first consisted only of ingesta mixed with the normal secretions, begins to contain mucus and blood and the products of fermentative changes. It must be noted that bile is always absent from these ejecta.

The distension of the stomach usually causes a swelling to the left of the medium line, but occasionally the stomach will be so enlarged as to pass completely across the abdominal cavity. The position of the stomach will be influenced also by adhesions which it may form with the surrounding viscera. A tumor, if such exists, may or may not be felt by palpitation. It may lie under the liver and be hidden by that organ or by very rigid and tense abdominal muscles.

I wish to insist upon the fact that there are very few diseases, other than obstruction of the pylorus or first part of the duodenum, which can cause just this sequence of symptoms. They might be simulated by the nausea of pregnancy or by that of a purely nervous character, but rarely or never by chronic dyspepsia.

Prolapsus of the stomach may, indeed, cause similar phenomena, but it does so by producing a kink of the duodenum, which, itself, causes an obstruction.

When, therefore, this train of symptoms occurs the physician should not lose time by a vain indecision. If he can find no other cause for the trouble, and it persists in spite of all his remedies, it is his duty to call in the surgeon, to give the relief which medicinal means cannot possibly supply. This is especially the case, when the patient, previously healthy, is steadily losing weight and strength, though it must be remembered that both tumors and strictures are apt to result from old ulcers and inflammations which have caused trouble during previous years. If I have gone more into detail in the discussion of the diagnosis of pyloric stenosis than might seem necessary it is because there is no class of cases which, in my judgment, demands so imperatively surgical aid, and in which there is so much unjustifiable delay on the part of the general practioner.

The profession seems to be hampered by old traditions and unable to distinguish between other chronic digestive troubles and those due to obstruction. It would perhaps aid in stimulating to more decided measures, if it were borne in mind, that these other troubles may themselves be more amenable to surgical than to medical treatment, for many so-called dyspepsias are caused by inflammations of the gall bladder or by gall stones, and many ulcers of the stomach which have resisted the

efforts of the physician have finally yielded to a gastro-enterostomy. Dr. Walker, of Detroit, has had much success of late in applying the same surgical remedy to indigestions caused by gastric ptosis. There may be some excuse for physicians who hesitate on account of a doubtful diagnosis, but there can, it seems to me, be only one opinion as to the duty of one who has diagnosticated any given case as one of pyloric obstruction. In such cases there can be no relief except by the knife and the failure to relieve means the sentence of death to the patient A large number of these cases are of benign stenoses in which a successful gastro-enterostomy means a permanent cure. Of the tumors of the pylorus many are fibrous or adenomatous, and a tumor in that region should therefore never be assumed to be cancerous. I have just had occasion to correct a diagnosis upon a patient upon whom I operated nearly three years ago. His case was very instructive in many ways. He was a gentleman of 68 years when I first saw him, who was steadily failing in health on account of a pyloric obstruction There was a tumor to the right of the navel as large as a hen's egg. He could retain no food on his stomach for more than a few hours. The contents of the stomach, when tested, showed the absence of hydrochloric and the presence of lactic acid. On opening the abdomen an irregular tumor was found at the pylorus as large as a hen's egg and enlarged lymphatics could be felt in the mesentery. I made a gastro-enterostomy by the elastic ligature. He recovered completely and gained his strength to such a degree that he travelled all over the country attending to his large lumber and mining interests without any inconvenience whatever. His first operation was done on September, 1900. He continued in good health until when attacks of colicky pain began, which were believed to be caused by the spread of the cancerous tumor to the neighboring viscera. These continued with occasional ameliorations until 1903.

He was then at Algoma at a summer hotel. There supervened then a sudden attack of obstruction of the bowels with fæcal vomiting. It was two days before I saw him, but as soon as he was brought to the hospital I operated on him. I found that the trouble was entirely independent of the original pyloric tumor. The obstruction was caused by a cancerous tumor of the transverse colon which had completely occluded that organ. He died shortly after the operation and I made a post-mortem. To my surprise I found that the original pyloric tumor, which I believed to be cancerous, had nearly disappeared. The pylorus was thickened and contained some small tumors projecting from its mucous membrane. There were some calcified lymphatic glands in the mesentery. There were absolutely no adhesions anywhere. At the

Detroit Clinical Laboratory, to which the specimens were sent for examination, the pyloric tumor was found to be an adenoma and that of the colon a cancer. The orifice between the stomach and jejunum made by the elastic ligature was large and perfect. Now this illustrates the extreme difficulty of deciding upon the character of a pyloric tumor without a microscopical examination. In this case, we had every reason to believe that the hard pyloric mass and the swollen lymphatic glands were cancerous. There was a rapidly growing obstruction, and the test breakfast showed the entire absence of hydrochloric acid. The tumor when exposed felt like a cancer and looked like a cancer, and yet when the irritation produced by the obstruction was removed by a gastro-enterostomy, the tumor began to grow slowly smaller and was disappearing when a new tumor of different kind growing in the colon caused his death.

I have no doubt that the original trouble had been practically cured by my first operation. Now, if when he first began to suffer from that peculiar intermittent colicky pain which characterizes a beginning intestinal obstruction, I had promptly operated, I might by an excision of the cancerous mass in the colon or by an entero-enterostomy have still further prolonged his life. This was not done because I believed that the trouble was caused by the invasion of the surrounding intestines by the pyloric tumor, a condition which would have made an operation of no avail. It was one of those lessons which the practical surgeon every now and then meets with, which tell him that no case should be despaired of until we have exhausted every possibility of cure.

When the pyloric tumor is cancerous, it does not forbid but rather urgently indicates an operation. That which kills the patient is not the tumor but the obstruction. He actually starves to death. The cancer, if not eradicated, would sooner or later kill, but in the meantime, the patient relieved by a gastro-enterostomy, would have his life prolonged from one to five years.

For these reasons, then, I earnestly insisted that we are not justified in withholding from patients a means of relief which in many cases would promise a permanent cure. If, on entering the abdomen, the surgeon finds that the case is not one of obstruction, he should examine the stomach to see whether a displacement causes a bend or if an ulcer has produced unusual symptoms. In either case, a gastro-enterostomy would give relief. In case there were gall stones and evidences of inflammation around the gall bladder, they could be operated on and the symptoms relieved, and thus in the rare cases in which the typical symptoms of pyloric obstruction were caused by other maladies, the operation would still be of service to the patient.

While the conditions which necessitate operations for the production of anastomosis in the small and large intestine are nearly the same as in pyloric stenosis, there are nevertheless peculiarities due to the position of the trouble which should be noticed. Stenosis of the duodenum between the orifice of the bile ducts and the stomach, presents about the same symptoms as pyloric obstruction. Beyond that point, bile will always be present in the vomit if the bile ducts are open. A stenosis in the third part of the duodenum or at the junction of the jejunum will usually be marked by a great distension of gut to the right of the medium line before vomiting begins. The vomiting may indeed be postponed until the patient is nearly moribund. This comes from the inhibiting action which is caused by a distension of that part of the duodenum on the motility of the stomach. I saw this manifested in my first case of vicious circle, in which the contents of the stomach instead of entering into the efferent limb of the jejunum passed into the duodenum. That viscus and the stomach both become enormously distended, but vomiting did not take place until the patient was moribund. This fact has a very important indication as regards surgical practice for the reason that a gastro-jejunostomy would be of no avail in a stricture of the third part of the duodenum—for that bowel, becoming distended, would prevent the contractions of the stomach, which are necessary to force the food through the artificial opening. Stenoses of the jejunum, ileum, and, sometimes, colon, when incomplete, are manifested by the violent contractions, often visible through the abdominal walls, which the bowel is forced to make, in order to empty itself through the narrow ring, by the extreme colicky pain caused thereby and by the gurgle, which announces the success of the movement and the consequent relief. I have met with this symptom only once in stricture of the large bowel, in the case namely of colonic cancer which I have just reported. This patient manifested it so markedly that I was deceived in diagnosis and thought that I had before me a stricture of the small intestine. Ordinarily a stricture of the colon causes a slowly growing distension with a general malaise and a toxæmia resulting from fæcal absorption. In many cases, however, the growing obstruction causes little inconvenience until, all at once, as the result of congestion or fæcal accumulations behind the stricture point, the most violent symptoms arise of acute obstruction. The surgeon is then surprised to find the bowel so completely occluded as hardly to admit a lead pencil through the diseased part.

The indications then for an intestinal anastomosis are chronic or sub-acute and partial obstructions, displacements of the viscera which

interfere seriously with their functions, and ulcers and inflammations otherwise incurable. In this last named case the relief is obtained by making a new channel for the stomach contents and thus relieving that viscus from the long retention of food and the friction which arises from its own churning action. They are indicated in acute obstructions only as means of repair. They are contra-indicated when the stomach has lost its motor force, for in that case, the chyle could not pass into the intestine even though there were a free and unobstructed opening. So, too, from conditions already stated, they could not avail in strictures of the third part of the duodenum or the beginning of the jejunum. In some cases, too, a total excision of the diseased area might offer a more permanent cure and be preferable. It is a curious fact, which illustrates the caution with which statistics should be received without careful study, that gastro-enterostomy, an operation not in itself dangerous, has a mortality record nearly as great as that of pyloric excision. The reason of this is evident—it has been the operation of last resort in nearly moribund patients. Many surgeons make a practice of excising a pyloric tumor when the case is hopeful and making a gastro-enterostomy when it is desperate. That a man thus operated on, when his stomach has become highly inflamed, and when he himself is at the point of death from starvation, should die, indicates not that the operation as such is dangerous but that it has been too long postponed. It happens not infrequently that a surgeon begins an operation expecting to make a pylorectomy, but finding that procedure impracticable, makes a gastro-enterostomy in hope of giving a temporary relief. As regards the mortality ratio, it varies widely in the practice of various surgeons—that it should depend in a measure upon the skill of the operator is self-evident but there are other factors which influence the result in an even greater degree. Conservative surgeons who refuse to operate on patients who have passed the safety line will show exceedingly favorable statistics, for the majority of such will recover. He who operates, as I have done in all stages of obstruction cannot fail to lose many patients. It is a question whether it pays to operate on cases so desperate that only now and then one recovers.

Speaking generally and with reference solely to pyloric obstructions, the operation will be usually successful as long as the ejecta consist solely of food and colorless mucus, and the cases become more and more hopeless as the vomit becomes green and finally black. The safety line may be measured, in most cases, by the color and character of the vomit. When it assumes a green hue, we may know that the disorganization of the stomach has begun, and when black, that it is nearly completed. I

think it right to give the patient every reasonable chance, but I now refuse to operate when a black fluid oozing from the stomach indicates an early death. Statistics will become more favorable when the general practitioner arouses from his apathy and ventures to urge upon his patient an unwelcome operation. There are certain nationalities, whose members will invariably resist all such attempts, but the duty of the physician is to give good advice, even though he can not secure obedience.

The question of method is an all important one to the surgeon who would make an intestinal anastomosis. Of the many procedures which have been introduced for this purpose, there are only three which can, at present, claim consideration, the use of the others having been abandoned or at most confined to single operators. These are, suture, the Murphy button, and the elastic ligature.

Of the suture and the Murphy button I shall have little to say, as they are too well known to all practical surgeons to require description. I shall, however, compare them with the method by elastic ligature, which has only recently succeeded in gaining favorable attention.

As early as 1891, I had operated for intestinal anastomosis by the elastic ligature. The patient recovered from the operation and ceased to vomit, but died on the 15th day of diarrhœa and starvation. Adopting the plan recommended at that time by Lücke, I had united the stomach with the nearest presenting coil of small intestine. This error in technique caused the loss of the patient, as the post mortem showed a magnificent anastomosis of the stomach with the Ileum, at a point only 91 centimetres from the Ileo coccal valve. I published the case and described the method in a paper read before the American Medical Association and published in its journal of May 16th, 1891. The paper and the method fell dead and attracted no attention. I myself soon after became enamored of the Murphy button, and used it in preference to my own procedure.

That which attracted me especially to Murphy's device was the possibility of administering food immediately after the operation while the elastic ligature required an abstinence of three days while it cuts its way through.

It was not until a further observation of ten years had taught me that it was not desirable that even the most fluid and blandest food should be thrust into an injured stomach directly after the operation, that I recurred to my own, as I now believe, superior method.

In most cases, the stomach refuses to contract during the first two or three days and food or medicine put into it, is liable to be retained there during that time. In the fall of 1900 I returned to my ligature

operation with successful results and am now in position to report many confirmations, on the part of distinguished American surgeons of its efficiency.

The application of the 31 elastic ligature as a means of producing an intestinal anastomosis is very simple. The two viscera are brought together and the surgeon connects them with a single line of Lembert sutures a little longer than the desired opening, the rubber cord is then, by means of a large needle, passed through the walls of first one and then of the other bowel and tied firmly in a single knot. Before tying it, however, a silk thread is laid under the knot and after the knot has been firmly tied with the rubber stretched to its utmost, the silk thread is made to fasten it in place. Both threads are then cut short and the Lembert suture is now completed so as to form a ring inclosing the rubber. In passing the rubber through the gut it should be put upon the stretch, in order to lessen its size, and drawn slowly and carefully through in order not to tear the gut. It is not necessary to say that the rubber should be first-class and fresh, for old rubber is apt to break. The advantages of this procedure are, 1st, its simplicity and quickness of application, 2nd, its aseptic quality for the rubber fills the openings through which it passes so completely that no extravasation is possible, 3rd, the delay in opening the passage until the intestines have become well glued together, and 4th, the ability to make with it a communication of any desired length. If we compare it with the incision and suture, it is more easy and quick of performance, much more aseptic and is accompanied with much less hemorrhage. If with the Murphy button, it is less liable to meet disaster from faulty technique, causes no loss of blood, is more aseptic, and it leaves no foreign body in the bowel.

The following history is interesting as illustrative both of the dangers which may arise from the use of the Murphy button in the hands of a very competent surgeon and of the condition of the gastro-intestinal anastomosis eight days after the application of the ligature.

Dr. Max Ballin, Surgeon to the Detroit Sanitarium, had two cases of gastro-enterostomy by the elastic ligature. One recovered without any complication whatever. In the other, fearing a vicious circle, he made a second anastomosis between the loops of the jejunum by the Murphy button.

The history of the case as reported by himself is as follows:

Mrs. S. B., 35 years old.

Previous history.—At 18 years chlorosis and a severe hematemesis Since then suffered frequently from vomiting, pain after meals, etc. In

last three years vomiting more frequent and in large quantities, great loss in weight, lived mainly on liquid diet. Washing of stomach gave only temporary relief.

Examination showed: Weight 98 pounds (at the age of 18, patient weighed 132 pounds). Stomach dilated below umbilicus. No palpable tumor.

Operation on Feb. 14, 1903. Abdominal section showed greatly dilated stomach, near the pylorus hard scar-tissue. Fundus nearly five inches lower than pylorus. Anterior gastro-jejunostomy after McGraw. Entero-enterostomy of afferent loops of jejunum by Murphy button.

For four days patient was in splendid condition. On Feb. 19, sudden collapse and vomiting. Symptoms of peritonitis. Patient died on Feb. 22.

Autopsy showed: Perforative peritonitis. New communication between stomach and jejunum perfect; the rubber-ligature had entirely cut through, the edges well united. On the place of anastomosis between the loops of the jejunum a perforation an inch large. The button not found on the place of the anastomosis.

Had there been no postmortem examination the onus of causing death in this case might have been laid on the ligature operation, as the less known and consequently less trusted procedure. The consideration which is, I find, the deterring factor in preventing the trial of this method by surgeons to whom it is a novelty, is the fact that the surgeon is not able to see the orifice produced by the ligature. He closes the abdomen on still intact intestines and is obliged to put his trust in the slow, unseen action of a constantly contracting rubber cord. He desires the evidence of his senses but is obliged to put faith in things unseen.

It is only after repeated trials of its efficiency that he learns to have confidence in a procedure which is certainly the simplest and, as I believe, the least dangerous of all methods for making an intestinal anastomosis.

CONSERVATIVE GYNECOLOGY.*

By A. LAPTHORN SMITH, B.A., M.D., M.R.C.S., ENG.

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THE position occupied by the conscientious Gynecological surgeon is often a difficult one. He wishes to do the best he can for the suffering woman who puts her trust in him; he wishes to win and retain the good opinion of the practioner who advises the patient to come to him

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he wishes to stand well with his brethren in the profession generally, as a successful expert, whose patients not only recover from the operation but are restored to health by it; he wants the patient herself to be a living and walking witness to the advantages of operations in suitable cases, generally, and in her individual case in particular, so that other women suffering from similar troubles will listen to their family physician when he frankly tells them that he has done everything that medicine can do, and that now they must fall back upon the resources of the gynecological surgeons art. So that from every possible point of view it must be his most earnest wish that he may do neither more or less than is necessary for the cure of the patient. And yet he is sometimes spoken of by his brethren half seriously and half in joke and often by the public altogether in earnest, as though he were not only ready and willing to operate on those who require it, but anxious to remove the whole of the sexual organs from women in whom they were perfectly well. If the specialist has served ten or fifteen years in general practice, as I think every one of them should do before he takes up his specialty, I can hardly imagine him to be other than a careful diagnostician and a conservative operator. If he is an educated gentleman, as he ought to be, surely no consideration, monetary or otherwise, could induce him to perform an operation which was not necessary or to do seven operations at one sitting when only one or two or three are required. It would seem that in the minds of some the words *thorough* meaning *complete*, and *radical* meaning *destructive*, were interchangeable. Place yourselves in the position of the specialist who receives a letter by the first mail in the morning from a patient from whom he has removed the left ovary two or three years before and who writes an angry letter because she is now suffering just as much from her right ovary as she did before from her left. At the time he may have believed that this would happen but she had refused her consent to have the right ovary removed. She also states that she has had a child since but suffered so severly all the time she was carrying it, that now she is going to another specialist in the hope that he will complete the unfinished work. This letter would make you resolve that you will remove both ovaries or none the next time. Then when you go to the hospital you find that you have to operate that morning on a patient who had her left ovary removed at another hospital a year ago by another specialist of whom your patient speaks most disparagingly in spite of your efforts to stop her. You have a difficult task in removing the right ovary and tube, because all second operations on the abdomen are more difficult than the first; and the vermiform appendix being imbedded in the tube is also removed.

This case makes you still more determined to remove both ovaries or none at all. She subsequently makes a good recovery and improves in health from day to day. Then on your return to your office you find a lady waiting to be examined and you find that nothing but an operation will do her the slightest good, it may be nothing else will save her life. But you cannot persuade her to have an operation because a friend of hers who underwent an operation for a similar trouble is no better but rather worse; and so she delays and when the operation has to be done later it is more difficult and more dangerous. You go to the Medical Society that evening and on hearing some one reporting the removal of a cancerous ovary in which he was careful to leave the other ovary, you mildly suggest that it might have been better to have removed the two ovaries lest a second operation may be needed later and at once you are attacked by several general practitioners and also by the man whose work you completed that morning, as being a dangerous fellow and a radical; and then some one rises to prove what an awful thing it is to remove both ovaries and tubes by citing a case in which one ovary was left and the woman subsequently had a child; as if the having of a child was positive proof that the woman was free from pain, while as a matter of fact her suffering may have been almost maddening. All this has happened to the writer in one short day; how would you feel about it? You would no doubt go on doing what you thought was best, but you would perhaps urge more women to go on bearing their sufferings who might be restored to perfect health by means of an operation.

My own practice has been to remove no more than is necessary to obtain a cure of the condition. But it is so distressing to have a woman come back time and again complaining that she has not been cured, or what is worse, to have her go to another doctor to have done what might just as well have been done at first, that I leave nothing undone to obtain a good result. There are many cases, I might almost say that the majority of the cases which come to us, have not one thing, but several things the matter and if the false idea of conservatism makes us perform only one operation when six or seven are necessary, all of which can be done at the one sitting, it is a veritable calamity for the patient. I have now done over one hundred of these combined operations which, if no extraordinary difficulties present themselves, can all be accomplished within an hour and ten minutes. Such a case for instance has an endometritis of gonnorrhoeal origin, a badly lacerated cervix, a badly lacerated perineum causing a rectocele, owing to the too early application of the forceps; and from the same cause a cystocele, the bladder having been dislocated through the separated pelvic fascia. The heavy and

subinvoluted uterus is lying retroverted in Douglas cul-de-sac and bound down there by layers of exudation ; the ovaries and tubes together form an abscess sac, the pressure of which causes an almost constant and sickening pain. It is evident that in such a case we must, First, Dilate the uterus so as to do, Second, a thorough curetting; Third, we must repair the cervix ; then, Fourth, we should remedy the cystocele which alone causes distressing urinary symptoms, and Fifth, build up a new perineum which Emmet has pointed out is so necessary to support the large veins in that locality ; Sixth, we must remove those purulent tubes and ovaries; and, Seventh, free the adhesions, raise the uterus and fasten it securely to the abdominal wall. While I have been removing the diseased tubes it has happened about twenty times that I have found the vermiform appendix imbedded in the exudation and covered with lymph. Is it conservative to leave the woman with a diseased appendix which may perforate a few days later or is it more conservative to remove it there and then even if that makes eight operations at the one sitting. Whether you consider such a practice conservative or not I can testify that these patients make the most satisfactory recoveries and I can find many of them now in perfect health. They are besides free from the dread of having to undergo any more operations. While recently visiting some private hospitals in other countries I was shown some patients who had been in the hospital for several months undergoing the above operations piece meal. It must have added enormously to the cost and I wonder how they could be induced to undergo these repeated operations, for the women whom I have seen have all expressed the greatest dread of undergoing any more of them.

With regard to the ovaries, this is one of the most difficult questions that a conscientious man has to settle. Shall we remove both ovaries? Or shall we remove only the one which is causing the pain? Our course must depend upon the nature of the disease. In cases of ovarian and dermoid cysts I have always left the apparently healthy ovary; but while writing this paper a woman from whom I removed a large ovarian cyst three years ago has come back with a still larger cyst on the other side which I will remove in a few days. In the case of malignant and semi-malignant disease such as papilloma I have always removed both ovaries. I was recently called to New Brunswick to a case of papilloma of the left ovary involving the bowel and necessitating the resection of several inches of the sigmoid flexure, in which the very skilful local surgeon had removed the right ovary for papilloma a year before, which subsequently proved to be malignant. He had the best of intentions and thought that he was properly conservative in doing this but it was a misfortune for his patient that he was so.

In prolapse of the ovary it is generally the left one which is enlarged and heavy and drops to the bottom of Douglas cul-de-sac on account of the difficulty the return flow of blood into the left renal vein experiences, entering as it does at right angles to the current. I only remove one ovary in these cases and none of these women have had to have a second operation.

Cirrhotic ovaries. This is the condition which gives the conservative operator the most anxiety. The woman complains of a constant sickening pain ; she is nervous, emaciated and cannot fulfil her duties to her husband or to her family. The slightest touch on the ovaries causes excruciating suffering so that she shrinks from the very thought of sexual relations until her husband becomes estranged because she does not dare to show him any affection. A bimanual examination, even when the woman is thin, sometimes proves negative, because the ovaries are too small to be felt, so that the physician doubts whether there is any real cause for her complaining. These ovaries are in the second stage of inflammation in which the exuded lymph of the first stage becomes organized into cicatricial or scar tissue which contracts and makes the ovaries smaller and at the same time squeezes the sensitive nerve tissue in the stroma of the ovary. That this is so, is proved by making a cross section of the ovary, when the follicles will stand out like the cells of a hob nailed liver. Even after such ovaries have been removed some of those present have wondered at their removal because they were so small. And yet one of the most satisfactory results I have ever obtained was in such a case. The patient though twenty-eight years of age had never menstruated. She had never experienced any sexual feeling, and she could not bear her husband to come near her. Immediately after her operation her pain disappeared and a few months later sexual feeling developed to rather more than normal. It is now about three years since the operation, and her husband, who called to see me recently, assured me that he was now a very hapyy man. I have mentioned this case because we so often hear it stated that the removal of the ovaries asexes the woman and so many are in favor of letting the woman suffer for years rather than remove the ovaries. As I know of many other cases in which sexual feeling was first experienced after the removal of the ovaries this objection does not have the same weight with me as it does with others who have not had this experience.

There is another class of cases which claims our sympathy, namely girls of twenty-five or six who have been suffering from dysmenorrhœa for many years until they are no longer able to remain in a situation or earn their living either as servants or school teachers or music teachers.

What shall we do for these unfortunate women? They have been treated for years with opium or alcohol until it is a wonder that they have not become addicted to these drugs. Many times I have removed the ovaries in these cases with the most satisfactory results enabling them to retain a good situation and to get fat and well. As marriage would cure most of these cases I do not remove their ovaries if they tell me that they have any prospects of getting married.

Resection of the ovary. In about twenty-five cases I have removed one and a half or one and three quarters of the ovaries with a good result so far. In some of them, menstruation has continued for a variable period and in all the troubles of the artificial menopause has been lessened. Another method of preventing the premature menopause is that suggested by Dr. Robert Morris of New York to take a small piece from some other patients healthy ovary and implant it into the broad ligament; I intend to employ it on the first suitable case. Another suggestion was made by Dr. Howet of Guelph, at the Winnipeg meeting, namely, to lift the ovary up and instead of cutting it off simply relieve the painful tension in it by making several cross cuts through the sclerosed capsule of the ovary. I have done this twice with very good results are far as I know.

The same question arises to a lesser extent in tubal pregnancy; a great many women who have run the gauntlet for their lives for a ruptured tubal pregnancy beg that we take such steps that this accident may never happen again. I have generally removed both tubes for this trouble as I think it is cruel to expose the woman to such terrible danger a second time, but I leave the ovary.

With regard to removal of the uterus. I am quite opposed to the operation as most of the women recover eventually although the organ has been infected. So that in pus tubes I only remove the ovaries and tubes generally leaving a small fragment of ovary. In conclusion I would say that the best interest of the woman demand that we act thoroughly in every case and it should be our constant endeavor to restore her to health by doing all that is necessary at the one sitting.

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THE CARDIAC COMPLICATIONS OF INFLUENZA.*

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IN the number and protean character of its complications and sequelae, influenza probably ranks second only to typhoid fever. The frequency of formidable and dangerous pulmonary complications during the febrile stage of the disease is well known, but it is not so well recognized that the heart often suffers serious damage from which it may never entirely recover. Only a want of recognition of the cardiac dangers in influenza can account for the common practice of administering such large and frequently repeated doses of the coal-tar preparations:—drugs, which, in a man over forty are probably as dangerous in influenza as in pneumonia. Months after an attack of grippe a man still complains of unusual weakness, he is shortwinded and sweats on slight exertion, his pulse rate is easily disturbed, perhaps irregular; physical examination reveals no sign of organic disease, yet he is suffering from cardiac weakness, either functional, in which case complete recovery is probable, or due to muscular change with a loss of cardiac power that may be permanent.

The cardiac complications of influenza may be divided into:—(1) Organic changes in the heart, and (2) Functional disturbances of the heart.

1 *Organic Changes in the Heart*:—

(1) *Pericarditis.* Grippal pericarditis is either primary, when it complicates influenza without other organs being affected; or, secondary, where it occurs in association with pneumonia or pleurisy, the latter form being much more frequent than the former. Like other forms of pericarditis it occurs with or without effusion; the former may be serofibrinous or purulent or even hemorrhagic, the latter dry.

The anatomical changes are similar to those found in other forms of the disease. It must be noted, however, that in grippal pericarditis purulent effusion is relatively frequent, and that myocarditis is commonly associated with it. De Batz, of Bordeaux,[1] in 8 autopsies, found the liquid purulent in 4, hemorrhagic in one Bacteriological examination of the pus revealed the specific diplobacillus of influenza; also the pneumococcus, streptococcus, and staphylococcus in the various cases.

Clinically, the cases may be divided into two classes; (1) Those in which the symptoms are similar to those presented by pericarditis due to other causes, and (2) The latent type, in which no symptoms of the

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disease are manifest. Menetoier[2] affirms that pericarditis is so frequent in the pneumonia of influenza that it is probably often latent, and refers to 6 cases, in all of which there was found at the autopsy abundant evidence of pericarditis, without a single symptom during life.

Grippal pericarditis is especially grave owing to its frequent complication with myocarditis and its tendency to take on a purulent character.

(2) *Endocarditis.* Endocarditis is generally considered to be a rare complication of influenza. From the number of cases reported and the frequency with which an attack of grippe is the sole antecedent history in cases of recently discovered valvular lesion, one is inclined to think that influenza is by no means so rare a cause of this condition.

Grippal endocarditis is rarely primary. In the great majority of cases, as pointed out by De Batz, it is secondary (15 out of 20 cases), and in nearly every instance secondary to pneumonia.

Anatomically, the changes are similar to those met with in endocarditis of rheumatic origin; the left side of the heart is most frequently involved and the mitral more often than the aortic valves. The infective agents are the pneumococcus, streptococcus, staphylococcus and the bacillus of Pfeiffer. Austin[3], of Baltimore, has reported three cases of endocarditis in which micro-organisms with the characteristics of the influenza bacillus were found on the cardiac valves.

The endocarditis of influenza may be, (1) simple, or (2) ulcerative or malignant. Simple endocarditis may present the usual symptoms of endocarditis from other causes and may be easily recognized. On the other hand the subjective symptoms may be so slight and unobtrusive that the diagnosis is very difficult. A man of 35, was examined by his physician for insurance in October, 1901, and his heart found normal. In January, 1902, he passed through a severe attack of influenza, characterized by chills at the onset, high fever (104 to 105), severe headache and general pains, rapid pulse, harassing cough and marked prostration. On the fourth day his temperature was 99 and he was comparatively comfortable but was extremely weak. His pulse was 110, quick and irritable and unduly accelerated by sitting up in bed. The first sound of the heart was impure and muffled. Two days later a soft blowing systolic murmur was heard at the apex. His recovery was slow and characterised by exhaustion with dyspnoea on exertion and rapid pulse. To-day he is apparently well, but his heart apex beat is in the fifth space, just inside the mammary line, the cardiac dulness is increased, there is a blowing systolic murmur at the apex, transmitted to the axilla, and the pulmonary second sound is sharply accentuated.

Huchard[4] states that primary, simple, grippal endocarditis may give rise to permanent valvular lesions but he thinks this is rare. He considers that cases of simple endocarditis occur generally in persons subject to old valvular disease. It is well known that the victims of chronic valvular disease bear grippe badly and, in many, the recovery is incomplete. A chronic, latent heart lesion may be so influenced by influenza as to produce most serious symptoms and thus for the first time reveal itself during or after the grippal attack.

Ulcerative or malignant endocarditis, as a complication of influenza, has been observed by many writers. It occurred in 4 of De Batz's 20 cases and a most interesting example has been recorded by Tickell[5]. In this case, symptoms first appeared during convalescence from an attack of influenza, the patient dying after an illness of two months. The autopsy showed extensive vegetations on both the aortic and mitral cusps with superficial ulceration, dilatation of the cavities, infarcts in the spleen, and puriform emboli in the kidneys, several branches of the mesenteric artery and both brachials. During his illness, the patient suffered from sudden abdominal pain with vomiting and diarrhoea, which Tickell explains as the result of the mesenteric emboli.

Ulcerative endocarditis has been observed during the course of the influenzal attack, but most frequently in the convalescing period. According to Huchard it is usually secondary to pneumonia and most generally comes on about the defervescence of the latter, or within a few days after.

(3) *Myocardial Changes.* Degenerative changes in the myocardium are common in the acute infections generally, and especially so in diphtheria, influenza and pneumonia. The bacillus of influenza elaborates a poison, which, when circulating in the blood in sufficient quantities, acts as a powerful heart depressant and modifier of the nutrition of the heart muscle.

By the constant irritation of this poison there will develop gradually degenerative changes in the muscle fibres, impairing their vitality and tonicity (myocarditis or degeneration, with usually dilatation). So long as these patients remain in bed they may suffer from their influenzal symptoms only, and the complete rest which they maintain enables the heart to perform its work. But when convalescence has set in and the patient rises and begins to take exercise, the heart muscle, already enfeebled by the action of the influenzal poison, is no longer able under the increased stress to perform its functions without unusual and often conscious effort. The myocardial lesion is now manifested by palpitation, dyspenoea, extreme weakness and, perhaps, collapse and syncope. Hence though the heart may be attacked during the acute stage of the influenzal

attack it is not until a later period that the cardiac complication becomes manifest.

Huchard thinks that the fatal cases of myocarditis are usually due to obliterating endarteritis of the coronary vessels and records such a case. Hay[6] reports an interesting case of fatty degeneration in a young man of 23, who died of cardiac failure three months after the onset of an attack of influenza. At the autopsy the heart showed both macroscopically and microscopically the characteristic fatty changes in its muscle fibres, with healthy coronary vessels. Such an example of true fatty degeneration in so young a subject must be very rare. On the other hand I believe that toxic myocardial degenerations in varying degrees of intensity are quite common in influenza and are responsible for the profound cardiac weakness shown by so many patients and followed in some instances by fatal syncope.

On January 10th, 1903, a vigorous healthy lady of 38 was seized with chilliness, headache, general pains and nausea. Her temperature at no time exceeded 101; her pulse ranged from 84 to 100, was soft, regular and compressible. Her case appeared to be a mild attack of influenza. On the third day her temperature was normal and pulse 80, but weak. She attempted to rise to the floor and fainted. Her pulse fell to 50, was regular, but very weak and continued slow and feeble for several days. Twice during the following week she fainted on attempting to assume the sitting posture in bed. The cardiac dulness during this time extended to the left of the nipple, the impulse was feeble and diffuse and the first sound short and weak, there was no murmur. She has apparently completely recovered after a very prolonged convalescence. Another case, seen during the same epidemic, in a physician of 54, ran almost the same course with the exception that his pulse was rapid and irritable and for 3 months was irregular and unduly accelerated by ordinary exertion. These cases I take to be examples of toxic degeneration of the myocardium with resulting loss of vitality and acute dilatation. Fortunately, both individuals were healthy before the attack and neither had taken any coal-tar preparation. Had they been debilitated before this illness or had depressent drugs been administered, I fear the result might have been fatal in both cases. The case of the lady shows that there is no definite relation between the intensity of the influenzal attack as shown by the temperature and general symptoms and the development or severity of the cardiac lesion.

The disastrous results which we have all seen follow the cardiac complications of this disease should enjoin us to exercise the same watchful care over the heart in influenza, in mild as well as severe cases as we do in rheumatism or pneumonia.

Sternal oppression or pain, palpitation, dyspnoea or sense of faintness, especially with pallor should call for a careful examination of the heart. A small, feeble pulse, unusually slow or rapid, with a short feeble first sound and later weakening of the second, a weak cardiac impulse with increased deep dulness should make us think of beginning myocarditis with dilatation. Muffling of the heart sounds with the later appearance of a blowing murmur announce a commencing endocarditis. A rare complication is cardiac thrombosis of which two cases are reported by DeBatz and one by Reynolds. In all three cases a large, firm, pale clot was found firmly adherent in the right auricle, extending from the auricular appendix into the pulmonary artery. All three patients died suddenly with extreme dyspnœa; one, in addition, complained of intense sternal pain.

Huchard has shown that in patients, suffering from angina pectoris, the attacks are aggravated by influenza; indeed, the influenza may precipitate the first seizure.

2. *Functional Disturbances* :—

The changes already referred to are no doubt the result of the direct action of the influenza bacillus or its toxins on the endocardium or on the muscular fibres of the heart wall. In the second class of heart affections in influenza are included those functional disturbances in the cardiac rhythm so commonly met with after this disease in patients who present absolutely no signs of organic disease in the heart. These symptoms must be attributed to the action of the influenzal poison on the cardiac nervous mechanism, either on the vagus or the cardiac ganglia. Indeed, Sansom[*] olds that in near y all the heart disturbances of influenza the primary cause is an affection of the nervous apparatus. Probably in no other acute infectious disease are nervous phenomena so prominent as in influenza and of these nervous disturbances none is more important or alarming than those of the circulatory system.

Among the functional cardiac disturbances following influenza are palpitation, irregularity, bradycardia and tachycardia. Post-grippal palpitation is very common and may for months be so severe on the slightest exertion as to render the patient totally unfit for business. Irregular action of the heart may occur during the influenzal attack or may not appear until convalescence is established. The irregularity may be constant or appear only on exertion. In some cases there is an intermission which may occur at regular intervals.

Bradycardia and tachycardia are not infrequent complications of influenza, the latter being more common than the former in my experience. Both may occur in young and robust individuals without the

slightest sign of endocarditis or myocarditis, and may appear during the attack or not for a considerable period afterward. Usually rapid action on exertion may continue for weeks after convalescence has set in According to Sansom, symptoms of Graves' disease are often associated with the tachycardia.

Of the four disturbances mentioned, bradycardia is the most dangerous as it sometimes leads to fatal syncope. Oppenheimer[9] observed that it is usually accompanied by a subnormal temperature, though there is no necessary relation between the range of the temperature, and the pulse rate. Prostration is very marked and according to the same writer is inversely proportionate to the frequency of the heart beats.

Fortunately the functional disturbances usually disappear in a few weeks, but in some instances they have persisted even for years. To differentiate a functional from an organic case may be extremely difficult. Well marked examples of myocarditis have been discovered at autopsy on cases which presented no symptoms or even signs of cariac disease during life.

As a rule, however, in addition to significant subjective symptoms physical examination will show a feeble, diffuse cardiac impulse with a weak first sound, and in many cases an increased area of dulness. The strength and character of the cardiac impulse and sounds are of much greater importance than the presence of a murmur or an irregularity in rhythm.

Personal observation and study of the subject lead me to the conclusion that influenza is a potent, and by no means an uncommon factor in the production of serious cardiac disease. Degenerative changes in the heart wall are probably present to some extent in many cases of influenza, and in debilitated subjects or in men past middle life whose cardiac muscles may be badly nourished owing to changes in the coronary arteries these changes may rapidly lead to grave symptoms.

Though I do not propose to take up the treatment of influenza, I feel that in consideration of the dangers of cardiac complications, the routine treatment of the disease with such drugs as phenacetin, acetanilid, etc., cannot be too strongly condemned. Certainly, in patients past middle life the use of such drugs must be considered dangerous.

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THE RELATION BETWEEN THE GENERAL PRACTITIONER AND THE SPECIALIST IN REGARD TO THE TREATMENT OF INTRA-NASAL DISEASE.*

By J. PRICE-BROWN, Toronto.

I think it may be laid down as an axiom, applying to medicine as well as surgery that, "the highest good of the patient should be the supreme object in the treatment of any disease." Hence, it behoves us as medical men to equip ourselves as completely as possible in order to combat with disease in all its manifold forms. The whole field, however, is too wide to be covered thoroughly by any one man. We must have general practitioners with broad vision, keen discrimination, and wide experience, to be the safe guard of the people, as well as of professional life; but we must also have specialists, who, in their narrower groove, can individualize more effectively and beneficially for the patient, than is possible with the men of larger vision. It is not that the one man is better than the other, but that "each in his place is best."

Of the various side lines in medicine which have opened up so extensively during recent years, no one, I believe, is more important than the one situated at the commencement of the great thoroughfare of the Respiratory tract. I mean the olfactory organ, the nose. The unfortunate thing in the past has been that the sense of smell has too frequently been considered the only great function of the nose, and that its duty in respiration has been almost ignored. Medical men are at last beginning to realize that while an obstructed nose is not the *Fons et origo mali* of all diseases of the respiratory organs, yet the condition of the tissues within the nose has a very important bearing upon the well-being and recovery of their patients. The triple function which the nose possesses, of purifying, heating and saturating the air of respiration, is forcing itself upon the minds of medical men more positively than it ever did before; and the necessity of correcting anything that interferes with the performance of that function is accepted.

The question may be asked, what is a normal nose? Pynchon says: "In the ideal nose the septum is practically plain, and naturally divides the organ into two passages of equal calibre, which passages have jointly a sufficient capacity to at all times easily supply the requirements of nasal respiration." This is a brief and good description, but as there are very few ideal noses, it is a little more perfect description than the average normal nose is entitled to.

It may be briefly said, that the two nasal passages should be approximately equal in dimensions and patency. The septum should be com-

* Read at the Annual Meeting of the Dominion Medical Association, London, 1903.

paratively straight from the anterior to the posterior nares, without noteworthy spurs or ridges or curves. The posterior end of the septum should not be thickened. Unfortunately it often is. The three scrolls—the superior, middle and interior turbinates, which are situated on the outer wall of each nasal passage, should stand free from the septum, leaving an open chink. Each inferior turbinates body should be pink in color, full, resilient and glistening with moisture, and standing from the septum about a quarter of an inch. The middle turbinateds should be lighter in color, smaller, and closer to the septum, but in other respects resembling the larger bodies; while the superior ones, being rudimentary require no description here. With all this the passages, when examined by either anterior or posterior rhinoscopy, should be free of accumulated secretions and at the same time nasal breathing should be efficient. Any marked departure from this general condition partakes of the abnormal and calls for treatment. If the required treatment can be efficiently done by the family physician, by all means let him do it But if not, he should refer the case, not to another general practitioner be he ever so skillful, but to the specialist who by careful preparation and continuous practise has made himself proficient in all rhinological work.

I think it is practically desirable that every practitioner should be able to examine the nose with the rhinoscope both anteriorly and posteriorly; to discriminate between the normal and the abnormal; and to diagnose the principal forms of disease which may be found within that organ. Not only so, but many of the conditions which occur, he can treat successfully; while in others he can afford relief even if he cannot cure. There is also the fact that throughout the country there are many people too poor to go away for treatment. These the family doctor could help in a very marked degree.

The instruments he may require with the exception of electrical apparatus, are neither very numerous, nor very costly. They consist of: head mirror, throat mirrors of different sizes, nasal specula of different widths, curved or angular scissors, cotton applicators, tongue depressor, saws, snares, insufflators and atomizers.

With regard to disease within the nasal passages, there are certain conditions which simple treatment will relieve, but in which persistent and regular treatment is imperative. This is particularly the case in Atrophic Rhinitis, usually considered a hopeless disease so far as positive cure is concerned. Still the patient can be made continuously comfortable and free from mal odor; and with persistent and judicious care, this can be accomplished as well by the physician in charge as by a specialist, in a large majority of cases.

The most satisfactory treatment I have found for Atrophic Rhinitis is first to spray the nasal chambers freely with Dobell's solution; then to wash them out from behind with hot water by means of a post nasal spray syringe, passing by this means a pint or two of water through the nose, at a temperature of about 100 degrees Fah. By the double means the hardened secretions are loosened and washed away, and the cleansing can be completed by the aid of pledgets of absorbent cotton upon an ordinary carrier. Effective applications of the cotton will necessitate the use of the rhinoscope, the treatment for the time being completed by freely spraying the passages with albolene.

To a physician who has not tried it, the amount of relief he can give the patient by one good treatment like this is surprising. In continuing the case, the patient should be taught to use both the atomizer and post nasal syringe, at least once daily, and should be instructed to return to the physician at regular intervals for more thorough treatment.

As to prognosis, tell him that systematic toilet effort will be necessary for comfort and hygiene; and also that, if he persists he will by middle life be practically well.

In many cases of subacute and chronic catarrh, the general physician can do all that is required for the patient. The nasal passage may be relaxed, boggy and clogged, without any atrophy at all. In these cases, the patient while in the office should expel all he can from the passages. Then to produce shrinkage, let the physician apply by cotton carrier or atomizer a one per cent. solution of cocaine. The consequent shrinkage will enable him to examine the passages more thoroughly, and they can be freely cleansed with Dobell's solution, followed by a mild spray of menthol in albolene to finish the treatment. If the nasal tissues are flaccid and lacking in tonicity, the application of a one per cent. solution of nitrate of silver to the whole lining membrane is often attended with good results. And if repeated at intervals of two or three days for several applications may afford complete relief.

With regard to operations that the general practitioner might do with safety, provided he has the instruments, and exercises care, several may be mentioned. Small spurs and ledges can be removed with the saw, after applying cocaine and a solution of adrenalin. But care must be taken not to cut through the septum, nor to injure unduly the mucous membrane; while at the same time the two required cuts should meet in the centre and should leave a smooth surface.

Nasal polypi may also be removed, so long as the operator confines himself to the use of the cold snare, which is in fact the best instrument by all odds for removing these growths. The only difficulty is that,

without both skill and perseverance, he fails to remove the whole of the myxomata, and in a short time they become as numerous as ever, resulting in most instances in a final appeal to the specialist.

In what is commonly called antral disease, or empyema of the antrum of Highmore, there is no reason why the family doctor should not take charge of a majority of the cases. Cure in many of them is simply a matter of thorough drainage, and having removed the appropriate tooth and drilled through the alveolus, the washing is readily done, and in a short time the patient recovers. Of course, in long standing cases where, in spite of treatment, the suppuration continues, there may be either myxomata or enlarged middle turbinated occluding the ostium, or synechia or polypi may have formed within the antrum, necessitating in either case more complicated treatment.

Before passing from this branch of the subject, I would like to sound a note of warning in referring to the use of the galvano or electro-cautery within the nasal cavity. It is a dangerous instrument except in the hands of the skilled operator. Many a time have I seen a synechia or bridge across the nasal passage connecting the middle or inferior turbinated with the septum, which owed its origin to the use of this instrument.

One fact that the surgeon is apt to forget, even in cases specially requiring the use of the cautery, is that the application of heat sufficient to burn the tissues is usually followed by temporary infiltration; there is also more or less singeing of the opposite wall, and with the resultant swelling, the two sides may come in contact and unite, thus forming a troublesome synechia. The injuries done in the past by the indiscriminate use of this instrument have been so great that many rhinologists have almost discarded its use, relying upon other methods of operative treatment in its stead. How very guarded, therefore, should unskilled men be when venturing upon cautery treatment within the nasal cavity.

Partial or complete turbinectory is also too serious an operation to be attempted by any but skilled hands.

Besides myoxomata or nasal polypi, fibromata and sarcomata are the principal organic tumors that have their origin within the nasal passages. The occurrence of either of these neoplasms is a very serious matter, and their treatment should not be undertaken by anyone but the specialist.

The opinion formerly held, and adhered to even now by many authorities, was that all cases of large fibromata and sarcomata of the nose or naso-pharynx, if operated upon at all, should be handed over to the skilled surgeon for removal by the knife. Now, as I said before, the final good of the patient should be supreme, and history has not proven

that the general surgeon is the best man to treat these cases. The surgeon's skill has made wonderful advances during recent years, and operations are repeatedly and successfully performed now that were not even dreamed of a generation ago. But the surgeon's knife has its limitations.

We know that in the removal of both classes of neoplasms from the nose, although only the latter is malignant, there is a double danger—one from hemorrhage, the other from recurrence. To avoid these, every precaution is taken, and the surgeon, in order to guard against the latter, makes deep and wide incisions so as to remove every particle of diseased tissue; hence, on the face, besides the external incisions, which will always disfigure, healthy structures are sacrificed, hoping to remove the growth in its entirety, with consequent deformity as well as disfigurement. And while the operation may have been done scientifically, and may be followed immediately by perfect coaptation and union of the parts severed, still, in the vast majority of cases, there is recurrence and the patient sooner or later succumbs to the disease. This is particularly the case with sarcoma.

I want it to be distinctly understood that I am not speaking of osteosarcoma, having its origin in the malar or other bones of the face, but of nasal sarcoma, which usually has its origin in the spongy tissues within the nose. Now, I am of the opinion that these cases should be treated intranasally by the specialist in preference to the general surgeon. If there has been marked advancement in surgery, there has been progressive movement in rhinological work too; and the nose offers as wide a field for improvement in the methods of removal of organic neoplasms as any in the body.

The surgeon delights in doing his work by a single skilful operation, removing every particle of abnormal tissue, and placing his patient at once on the road to health; and undoubtedly with the greater part of the human economy it is altogether the best plan. But the nose is differently constituted to other parts of the body. Its framework is composed of a mass of little bones such as you will find nowhere else. Some of them are deeply seated, containing sinuses and meati, turbinal bodies and septal tissues, all crowded together. At the same time nature has placed wide openings both anteriorly and posteriorly whereby the whole interior can be scientifically examined and treated. Then why should we discard nature's methods, and resort to external incisions, particularly when the latter are futile of ultimate good results?

Fortunately, science has placed in our hands a method of treatment which promises to be superior to all others, and we are able to apply it entirely by intra-nasal methods.

At the annual meeting of the American Laryngological Association at Washington this year, Bryson Delavan read a paper which contained some very important statistics upon this subject. His claim was that the ideal operative treatment for the removal of fibromata from the nose and naso-pharynx was by electrical methods. Although his article will not be published until the fall, he kindly gave me permission to quote the following statistics. It is a report of 134 cases operated upon in one way or another, with, in round numbers, the following result :

	Cases.	Cured.	Died.	Recurred.
By Preliminary				
Operation or excision	27	59%	26%	15%
By evulsion or cold snare.....	41	95%	5%	
By electrical methods.....	61	100%	No deaths	

Electrical methods meaning operations within the nasal cavities by electrolysis, galvano cautery loop, electro cautery knife, etc. etc.

Pro tanto, what would be preferable treatment in fibroma should apply when it can be used at all to the more serious disease of sarcoma. When not operated upon it is uniformly fatal; and when removed by ordinary surgical methods the outlook is very little brighter. The disease usually soon recurs to be quickly followed by a fatal issue. The outlook when treated intra-nasally by Delavan's method is certainly more promising ; and I am happy to say that I have the record of three cases of sarcomata treated upon these lines, before I knew anything whatever of Delavan's report.

One of these I treated eight years ago. It was reported at the time in several medical journals. The man is perfectly well to-day, and there has been no recurrence. The second case was treated sixteen months ago. It occurred in a man aged 58 years. It also was reported. There has been no recurrence. The third I have the honor of showing you to-day. He is a private patient aged 22 years, who kindly came from Toronto to be seen by the members of this association.

Three years ago last May this case was diagnosed after microscopical examinanion to be one of nasal sarcoma. A surgical operation by external incision was advised, as the best method of treatment. Even then the prognosis was very wisely expressed as doubtful, and he declined to submit to the operation. Two years and a half later the growth had grown enormously, and the man came to me for treatment. I will

not take up your time by describing the work, but simply say that the tumor of which these bottles contain segments was removed entirely intra-nasally, and the main part by electro-cautery operations. . . . On April 2nd., the last of a series of operations was done, the whole of the tumor being apparently removed, and the patient was well enough to return to work.

By July, however, it had commenced to recur, and electro-cautery treatment was resumed. The last burning was two weeks ago, and I believe the disease is again under control. He and I intend to keep it there if we can.

As you will notice when you examine the left nasal cavity, the complete removal of the enormous growth that at one time filled it, has left ample space to deal as successfully as possible with anything that may again develop.

I would close by saying that if in this case recurrence should finally be so severe as to be uncontrolable, and a fatal issue should result; still the immense improvement in his condition which the operative treatment has produced, is sufficient to endorse the plan, while it is a direct evidence of the correctness of Delavan's teaching.

A PROVINCIAL SANATORIUM FOR MANITOBA.

By J. O. TODD, M.D.,

Professor of Anatomy, Manitoba Medical College, Winnipeg, Man.*

I AM not sure whether I have a reputation for prolixity or not but our secretary made it painfully evident to me that I was to "cut it short." Five minute papers he said, is the order of the discussion; so much as I might feel inclined to enlarge, in a laudatory way, upon the benefits to be derived from this gathering I must deny myself the pleasure.

I think it would have been better to have had, as the introducer of this discussion some one who had given more specific attention to its subject than I have; for I can claim but the interest that every citizen should have plus that which attaches to a professional connection. However, I don't feel called upon to touch on the many points that arise, since the majority of them have been so thoroughly threshed out and settled within the last few years. For instance, it seems to me needless to discuss the utility of a sanatoria; for, to my mind, their great usefulness is absolutely proven, I firmly believe that

* Read at a recent general meeting of the Profession of Winnipeg and the Province in moving the recommendation for a Provincial Sanatorium for Tuberculosis.

incipient pulmonary phthisis is curable by the application of the principles of sanatorial treatment, I quite admit that the term incipient phthisis is lax but I am satisfied that the ordinary acceptation of the term is sufficiently clear to establish upon it useful, if not absolutely scientific statistics.

In the present growing state of this great western country, with its scattered population, it cannot be fairly charged as a reproach that we have no systematized sanatorial homes; but the day is not far distant when such a stigma might attach to continued indifference. It is well then that we should be preparing ourselves and the public for a step that seems to be imperative. In speaking thus somewhat emphatically I would not wish to be classed as a faddist on the question of sanatorial treatment because personally I am of the opinion that sanatorial institutes are not the permanencies that many would have them to be in the treatment of pulmonary tuberculosis; but that they are rather educative establishments of vital present benefit and while not for a moment minimizing the great good that patients directly derive from the treatment, I question, whether the greater benefit will not come from the general application of the principles exemplified in sanatorial management. At any rate it is my own observation and I think that the past sanatorial records of patients treated conclusively establish its correctness, that unless a patient is placed under conditions favorable to the continuation of the lessons so well taught at the sanatorium, the tendency is to relapse. There is a wonderful virtue in an institution, we see that demonstrated in our schools. It would be quite possible for us all to have learned at home the principles taught us in the different schools and colleges, yet who would disparage the benefit of their concentrated effort. Analyse the methods of sanatorial treatment and we find they consist of one great essential factor and several secondary ones. This central feature of sanatorial therapeutics, is fresh air. Let the air be dry, if possible, but it is not imperative since success has followed treatment in moist as well as dry atmospheres. Air of high altitude is probably better than that of a lower and yet marked recoveries attend either. Climates with moderate, equable temperatures favor, no doubt, more speedy recoveries from tuberculosis than their opposites and yet highly satisfactory results are obtained by sanatoria doing their work in rigorous climes. Sunlight air can be said, with little fear of contradiction, to be more desirable than cloudy, dark skies and yet practical results from sombre-skied England have been made to approach, within easy distance, those from Italian districts. Next to fresh air, proper feeding is of importance and succeeding this, in order of merit, judicious exercise, drugs tip the tail of the therapeutical kite.

With these accepted as the necessary factors in sanatorial treatment, it does not need dilatation on my part to prove that in all essential features the climatic conditions of Manitoba are favorable to the average tuberculous patient; and with glowing statistics accruing from the states in Northern Europe as well as from portions of our own continent, where snow, ice, cold and rain are qualities of the winter's season, it seems scarcely necessary to defend a climate the air of which is dry, rarified and brightened by much sunlight, of course one readily acknowleges that owing to the rigor of our winters, the conditions are not the most favorable but if that fact had influenced other localities than ours then the majority of the present day efficient sanatoria of the East would not be in existence and many thousands of the tuberculous patients would to-day be on the road to speedy deaths instead of being rejuvenated and rapidly gaining restoration of health through the effective training received at the local sanatoria. Sir James Grant has boldly disclaimed our absolute dependence upon a "California Climate" in treatment and Dr. Elliott, of the Muskoka Cottage Sanatoria in an extremely fair analysis of cases extending over a five years term shows results that fully answers the somewhat impertinent inquiry of a California enthusiast relative to the feasibility of open air treatment in Canada. My view of our position in the case is that in this, as in other diseases, our patients divide themselves into private and public ward classes. The first class has the means to enable its victims to seek the most highly favored localities but the other class must stay at home. It is for these that provision should be made in Manitoba and unless such is done a larger percentage of tuberculous patients must go untreated by the best methods developed by modern medical science. In order to bring this discussion to a point, I beg to move the following resolution which aims at committing this assembly only to the general principle of the feasibility of local treatment of pulmonary tuberculosis in Manitoba.

Resolved by this meeting of medical men representing important districts of Manitoba, that the establishment of a local sanatorium for the treatment of pulmonary tuberculosis is imperative.

During the course of erection of the new wing to the Winnipeg Hospital, a storm blew the walls down, causing great loss and much delay in the work.

CURRENT MEDICAL LITERATURE.

Conducted by A. J. MACKENZIE, B.A., M.B.

THE MATAS TREATMENT OF ANEURISM.

In *Gaillards Medical Journal*, September, Bullock reports a case of femoral aneurism of traumatic origin, treated successfully by this method which is as follows :—

Control circulation by compression on the proxmal side of the tumor. Incise the sac longitudinally its entire length, avoiding dissection of the sac more than is necessary to expose and protect important over-lying structures. Evacuate the blood and clots and examine carefully for openings of the vessels. There are two large openings in a fusiform and one in a sacculated aneurism. Look closely for mouths of collateral vessels, and close these at once by suture if there is hemorrhage. Scrub the interior of cavity gently with gauze soaked in sterile saline solution, close all visible openings of the sac by sutures with chromicized catgut on round full curved needles. The continued suture, as a rule, will do well in all cases. Eight or ten sutures to the inch are more than sufficient. In dealing with the larger openings the needle should penetrate one-fourth inch or one-sixth inch beyond the margin of the orifice, and then after reappearing at the margin dip again into the floor of the artery and continue to the opposite margin as in the start. It is frequently advantageous to continue the line of suture from one orifice to the other ; these sutures include the floor of the sac and are applied on the Lembert plan. The constrictor should now be removed, and oozing will usually be stopped by pressure, and the subsequent part of operation. A second row of Lembert sutures over the first is sometimes useful when the sac is very large. The skin flaps lined on their inner surface with smooth sac wall, can, as a rule, be made to touch the bottom of the cavity by one or two relaxation sutures on each side. The sutures are best applied with a large-size, full curve intestinal needle, which is made to grasp a considerable portion of the sac wall in its bight. The needle should penetrate the entire thickness of the sac. The ends of the hoop thus formed are carried through the skin flaps by transfixion with a Reverdin needle and tied firmly over a loose pad of guaze A few sutures through the skin complete the operation.

BACTERIOLOGY OF THE PUERPERAL UTERUS.

Marx of New York reports the results of a series of investigations on this subject in the *American Journal of Obstetrics* for September. To determine the sterility or otherwise of the puerperal uterus a method of technique was used which it will suffice to say seemed wellsuited to its purpose and reduced the possibility of error to a minimum. Fifteen cases were examined on the day of delivery, and on alternate days thereafter and of all the forty-seven examinations made the results were negative except two and these, in the opinion of the investigator, were possibly due to external contamination a result which the author thinks justifies the conclusion that the puerperal uterus is a sterile organ and the following deductions :

1. The presence of bacteria in the puerperal uterus in the absence of general evidence of a constitutional disturbance such as fever and pulse rise, etc., means the introduction of such bacteria by accidental contamination.

2. The presence of bacteria in the puerperal uterus accompanied by fever, rapid pulse and other disturbances means in all probability a sepsis arising from the uterus.

3. The absence of bacteria in the puerperal uterus in the presence of general symptoms (temperature and pulse rise) means the necessity of looking for the source of the disturbance in some organs other than the uterus ; sepsis from vagina or vulva, or some general disturbance independent of the puerperal condition.

PREGNANCY IN A DWARF.

In the *American Journal of Obstetrics* for September, Willard reports a case of pregnancy in a dwarf weighing thirty-nine pounds and of the height of 28½ inches. The patient was much deformed from a series of spontaneous fractures during infancy and the pelvic measurements were only—external conjugate 12½ cm., diagnal conjugate 6½ cm., transverse diameter of pelvis 4 cm. She presented herself for treatment at the fifth month and a hysterectomy by supra-vaginal amputation was done, from which she made a good recovery.

DISEASES of the EYE, EAR, NOSE and THROAT.

Conducted by PERRY G. GOLDSMITH, M.D., Belleville, Fellow of the British Laryngological, Rhinological and Otological Society.

CHARACTERISTICS OF OCULAR HEADACHES.

(1) Forty per cent of all chronic headaches and eighty per cent. of all frontal headaches are partially or wholly of ocular origin.

(2) Their site, in order of frequency, is (a) supraorbital, (b) deep orbital, (3) fronto-occipital, (4) temporal, or (5) a combination of these.

(3) Near work is their chief exciting cause; reading, writing, drawing, painting, fancy work, typesetting, typewriting, sewing, music, etc.

(4) Patients suffering from headache often observe that other eye symptoms (6 and 8) also result from the use of their eyes for near work especially with artificial illumination.

(5) Shopping, theatre and church going, as well as riding in street cars and railway trains, often induce it.

(6) The letters and lines in reading and notes in music blur, run together and get "mixed up."

(7) The patient with ocular headaches is generally astigmatic or far sighted, or has some other refractive error, or has some weakness of his ocular muscles.

(8) Patients with ocular headache often complain of lachrymation, photophobia, foreign body sensations, specks floating before the eyes, itching and burning of lids, redness of eyes, etc.

(9) The signs of eyestrain above mentioned may be present and the headache of ocular origin, *although the vision is normal and there is no manifest astigmatism.* The patient in such a case overcomes his hypermetropia, or astigmatism or both, by continuous muscular effort.

(10) About ten per cent. of all ocular headaches are incurable and some of these are hereditary.

In connection with his paper, Dr. Wood published a small card with directions by which one can very easily detect the presence of astigmatism or some other defect of vision. This chart should be in every general practitioner's consulting room. The family doctor could then inform his patients of the necessity of having proper glasses before he has exhausted all the headache cures he can think of and not be forced to refer his patient to some travelling professor, or the local jeweler or drug-eye specialist, who invariably aims to make "a sale."

THE PREPARATION OF THE PATIENT FOR NOSE AND THROAT OPERATIONS UNDER LOCAL ANÆSTHESIA.

The preparation of the patient for nose and throat operations is too frequently neglected, probably because we cannot render, or keep the area of operation aseptic. Better results, however, would ensue if patients had more preliminary attention. Ward in N. Y. *Med. Jour.*, Sept. 12, summarizes as follows :—

(1) Local treatment to free the nose and naso pharynx from mucus and relieve congestion.

(2) Laxatives, diaphoretics and diuretics, to stimulate elimination.

(3) Tonics to tone up the nervous centres and restore general functional activity.

(4) Atropin to prevent reflex inhibition.

Rest in bed, with the exhibition of a mixture of soda salicylate and pot. brom. for a few days, appears to greatly lessen the dangers of post operative complications. It is almost invariably advised by English rhinologists.

THE TREATMENT OF CHRONIC CATARRHAL DEAFNESS.

Dr. Geo. W. Hopkins discusses this subject in the *Medical News* of August 22nd. After insisting on the necessity of a careful regulation of the patient's mode of life, habits, dress, etc., he discusses the various vapors used as stimulants to the tympanic mucous membrane. They act by causing an increased flow of blood to the parts favoring absorption of the recent inflamatory deposits, or relieving chronic congestion, due to lack of tone. Warm vapors are greatly preferred to cold ones, and Hopkins thinks have a much better therapeutic effect.

Compressed air, heated and charged with ozone, constitutes, he thinks, one of the best agents known for inflation of the Eustachian tube. In long standing cases of tubal obstruction, Dench's gold electrode, properly applied, gives gratifying results. A sound knowledge and training in electro-therapeutic principles is absolutely essential to good results. Superheated air has also given very satisfactory results.

FACIAL NEURALGIA.

Peyre-Porcher *Laryngoscope* holds that the most frequent cause of severe facial neuralgia is localized inflamation in the nose, antrum, or teeth. In the last six cases treated by him, the chief and only cause of the trouble was found in these organs. In two of the cases which he reports there had been removal of the Gasserian ganglion without effect and the nasal conditions had been entirely overlooked.

PRESCRIPTIONS.

℞ Hydrarg. oxid. rub.
Hydrarg. ammoniat aa. gr. vi.
Adipis benzoat. ℥i.
Ol olivæ opt. ℥ii. M.

For dry scaly eczema of the auricle, also for eczematous thickening of external meatus, when the ointment is applied on cotton plugs.

BARR.

℞ Yellow oxide of mercury, 1 grain.
Sulphate of atropine, ¼ grain.
Vaseline (pure), 1 dram. M.

A small portion to be introduced between the lids night and morning, during subacute, or torpid state of corneal ulcer.

DE SCHEWEINITZ.

A PLEA FOR A MORE EXTENDED USE OF MYOTICS.

The editorial of the *Opthalmic Record* for August deals with this important question. A few cases are cited in which an attack of glaucoma followed the instillation of homatropine for a more thorough examination of the eye, which suggests the query: Do opthalmologists do their duty in allowing patients upon whom a mydriatic has been used for testing refraction or examining the fundus, to leave their offices without using some myotic. While the occurrence of glaucoma in such instances is very rare, still we should not subject our patients to its risk without using eserine, 1 per cent. freely before dismissing them.

OCULAR COMPLICATIONS OF SCARLATINA.

Ocular complications of scarlet fever are quite rare and appear late in the disease or during convalescence. In an epidemic occurring in Wilna in 1902-3, Strozeminski (*Rec. d'Opthalmologie*) observed two cases of corneal ulcer, three of phlyctenular kerato-conjunctivitis, one of paralysis of accommodation and of the sphincter pupillæ and one of diphtheritic membrane on the conjunctiva. Other complications noted by various authors include orbital phlegmon, abscess of the lachrymal gland and sac, embolism of the central artery of the retina, inflammation and atrophy of the optic nerve, following scarlatinal meningitis, paralysis of both facial nerves and ulcers of both corneæ with a bilateral scarlatinal otitis.—(*Medical Review of Reviews.*)

PROVINCE OF QUEBEC NEWS.

Conducted by MALCOLM MACKAY, B.A., M.D., Montreal.

The Montreal Medico—Chirurgical Society opened the year's work on October 2nd, with a smoking concert. This innovation was most succesful, and a large gathering was the result of the venture, auguring favorably for future meetings. The business of the evening, which occupied the first part of the programme, was the installation of officers, and reading of the president's address. The society has honoured the officers who were elected last December by re-electing them for another year's service. Previous to this year the society elected theirs officers in December, and installed them in January. This only gave them two or three weeks to prepare their plan of action for the ensuing term, consequently the system was changed, and in June last another election was held, so that, as the first meeting of the society would not be until October, the officers might have three or four months to arrange work for the new session. According to the new system those who had been elected in January would have held office for six months only, but their excellent arrangement and enthusiastic performance of their duties were so appreciated that they were unanimously re-elected, and will therefore hold office for eighteen months.

The following are the names of the officers:—President, Dr. H. S. Birkett; Vice-President, Dr. J. A. McDonald; Treasurer, Dr. D. J. Brazin; Secretary, Dr. A. M. Forbes; Trustees, Dr. F. J. Shepherd, Dr. James Perrigo and Dr. James Jack.

The president, in his address, reported that twelve regular meetings were held in the past six months, with an average attendance of forty. At these meetings, ten papers and thirty-four case reports had been read and a large number of living cases shown.

Several new names have been added to the list bringing the membership up to 196.

As a feature of the coming winter's work it was proposed that papers should be delivered by well known outsiders, several times during the session. Last year one of the evenings had been set apart for this purpose, when Dr. Kinghorn of Saranac read a paper on tuberculosis. The keen interest aroused by this meeting amply repayed the committee in charge for the work involved in making the arrangements, the discus-

sion being most interesting and representative, and the attendance one of the largest in the history of the society.

In touching upon the subject of discussions on papers and cases brought before the society. Dr. Birkett regretted that they were limited as a rule to remarks made by two or three members, whose names cropped up regularly in the minutes of each meeting. This was not as it should be, a great many more should take part and not leave everything to the faithful few. No feeling as among teachers and students ought to have influence in such a society. All were students, and all might be teachers. This was an old complaint, and many of the past presidents had spoken about it, and tried to remedy the evil. He hoped that the young members would step forward and take their share in all the work that was being done.

Another change which had been proposed was that all the living cases should be demonstrated in the side rooms between 8.30 and 9 o'clock, in order to save time and avoid confusion. A synopsis of each case would be type-written and placed beside the patients, and the paper and discussion of the case would be conducted in the main hall. A similar plan would be carried out in regard to pathological and microscopical specimens.

The financial condition of the society he was pleased to say was flourishing, but the treasurer's report would be held over as usual until the end of the year.

The rest of the evening was devoted to music and conversation, a light supper being served at eleven p.m., after which the meeting broke up to the strains of God Save the King.

At the recent meeting of the Quebec Board of Physicians and Surgeons held in the city of Quebec, several very important points were brought up for discussion. First, the lengthening of the medical course from four to five years. Second, the prevention of men having British licenses from registration in the Province of Quebec without examination, that is, abolishing the law now in force. Third, the question of a compulsory B. A. course, or "*cours classique complet*" before admission to the study of medicine.

The report of the meeting has not yet been published, but in regard to the first point the vote resulted in the adoption of the five year course. This is a step in the right direction, and as is well known the faculty of McGill University has had this question under consideration for a number of years, in regard to the regular course at that institution; doubtless this move on the part of the Quebec Board will bring the subject again to the fore in college circles.

The second point has been forced into the notice of the Board by the irritating spectacle of a man already rejected, coming before the committee for admission to practice, some months later, with a British license, which of course must be accepted, notwithstanding how irregular his previous training may have been. The law which has been in force up to this time was repealed by the vote of the members.

In regard to the third question, the committee in charge saw the full injustice of trying to force the measure alike on French and English. As far as the French Canadian element is concerned the obligation of a complete classical course would be an advantage, as fewer students would leave their preliminary studies to pass an examination and enter medicine, in an unprepared state. On the other hand outside of large cities there is no chance for an English speaking student to obtain a similar education. And even in the cities the fees are very much greater in the English schools. The question was discussed at length, and an amendment put to the motion, to the effect that the law would remain unchanged for the Protestant or English speaking candidate, while the Catholic or French speaking candidate would have either to present his diploma for the "*cours classique complet*" or be prepared to pass an examination equivalent to that which would have been required for admission to the "*baccalauréat.*"

These changes do not come into force until passed by the Quebec Legislative but the probability is that they will become law without alteration.

The McGill Medical Faculty has suffered through sickness of some of its members. Dr. Stewart has been ill with blood poisoning, Dr. Morrow with typhoid fever, and Dr. Blackader has also been very ill.

Dr. T. Wesley Mills, of McGill Medical Faculty, was married in England to Miss Samuels, known as Madame Benda, a celebrated singer.

Queen's University conferred the degree of LL.D. on Dr. Roddick recently.

UNIVERSITIES AND COLLEGES.

THE MEDICAL FACULTY OF THE UNIVERSITY OF TORONTO.

The opening of the session of the University of Toronto Medical Faculty was an event of far more than ordinary importance. Two great events were centred in it. In the first place, there was celebrated the union of the two medical colleges of Toronto. Toronto and Trinity Medical Faculties struck hands together, having decided to work as one. The other great event was the dedication of the new medical building, which is admitted to be the finest of its kind on the continent.

The proceedings were commenced by a luncheon given by Dr. R. A. Reeve, Dean of United Medical Faculty, in the main college building. At this luncheon were the distinguished visitors, many of the friends of the university, and the members of the medical teaching staff.

After the luncheon, Professor C. S. Sherrington delivered, in the large lecture room of the new building, the inaugural lecture, which appears in this issue. It was the worthy effort of an eminent scientist.

Following the address of Prof. Sherrington, professors Welch, of Johns Hopkins ; Chittenden, of Yale University ; Porter, of Harvard, on behalf of Professor Bowditch ; Roddick, Dean of McGill Medical Faculty ; A. C. Abbott, of the University of Pennsylvania ; McMurrich, of the University of Michigan ; L. F. Barker, of Chicago University ; Roswell Park, of the University of Buffalo ; and Hon. Senator Sullivan, of Queen's University, Kingston, spoke in congratulatory language of the good work that was being done by the University of Toronto, and of the bright future ushered in by the union of the two schools and the opening of the new building.

In the evening, in the large auditorium of the gymnasuim, to an overflowing house, Professor Willian Osler, of Johns Hopkins, delivered a most brilliant address, dealing largely with matters that touch upon the welfare of the medical student. Those who heard the address will be ready to admit that Professor Osler, always good, was at his very best on this occasion. His address appears in this issue.

Dr. J. A. Temple said in behalf of his Trinity confréres who had entered into the union that they were able and energetic teachers, that they would prove loyal to the university, and that they all hoped the new arrangements would be attended with great success in the future

Dean R. A. Reeve expressed the hope that the students would lay to heart the words of Professor Osler and acquit themselves like men in the matter of work ; but, even more important still, to acquit them-

selves like gentlemen in their conduct, and in the avoidance of all unbecoming acts.

The degree of LL. D. was conferred, *Honor's Causa*, upon the following gentlemen : W. W. Keen, M.A., M.D.,LL. D. professor of surgery, Jefferson Medical College, Philadelphia ; W. H. Welch, M.A.,M.D.,LL.D., professor of pathology, Johns Hopkins University, Baltimore ; W. Osler, M.D.,LL.D.,F.R.S., professor of medicine, Johns Hopkins University ; R. H. Chittenden, Ph. D., professor of physiological Chemistry, Yale University ; Charles S. Sherrington, M.A.,M.D.,F.R.S., Professor of Physiology, University of Liverpool ; and, *in absentia*, H. P. Bowditch, M.A.,M.D., D. Sc., LL.D., professor of physiology, Harvard University.

Professors Keen and Welch spoke strongly in behalf of the need of a hospital entirely controlled by the University ; and the Hon. R. Harcourt expressed the opinion that, under the new conditions, it would be possible to avoid much of the waste of the past, when there were two rival schools.

So far, students have registered in the department of medicine. The two days' proceedings were very successful, and sent abroad an influence which will redound to the good of the medical department of the university.

MANITOBA MEDICAL COLLEGE.

Manitoba Medical College opened its doors for the 21st session on the 21st September with the largest attendance in the history of the college. There is even a larger freshmen class than last year, when there was over 40. In the second year there are about 30. The third year has 32, and the final or fourth year, about 15. There are usually two or three third year students of eastern universities added, taking their final year, in view of which the following extract from the regulations may be of interest :—

" In the case of a student from another university taking *Ad Eundem Statum* in this university, it shall be at the option of the Board of Studies, to admit such a student, even although his tickets may conflict with the foregoing regulations, but no student from another university can be admitted to the fourth year examination unless he had attended one full eight months' winter session, taking out all the fourth year tickets of a medical school in Manitoba affiliated with this university."

The most salient feature of medical education in this province is that there is no " council " examination for graduates of our own university. On payment of the registration fee of $75.00 to the Registrar of the College of Physicians and Surgeons the graduate of Manitoba University is licensed to practice in Manitoba, and on a further pay-

ment to the Medical Registrar of the North-West Territories at Calgary he is licensed also for the Territories without any examination. This applies only to the graduates of Manitoba University. All others, with one or two trifling exceptions with regard to English graduates which will shortly be abolished, must take an examination for license which is the final year of Manitoba University. The College of Physicians and Surgeons here is not an examining body.

Arts men may get through in three years as follows: When a student is a graduate in Arts of any recognized university in His Majesty's Dominion, he may complete his medical course in three winter sessions of eight months each, and shall not be compelled to produce a ticket for Inorganic Chemistry, or to pass an examination in Inorganic Chemistry for the first year, provided he shall satisfy the Board of Studies that he has already passed on such subjects in his course of Arts. The tickets of such students in Medicine, Surgery, Obstetrics and Diseases of Children, Diseases of Women, Medical Jurisprudence, Clinical Medicine, Clinical Surgery, Pathology, and Sanitary Science must all be for attendance subsequent to the end of his first full winter session at college. Honor graduates in Natural Science shall not be required to present tickets, or pass an examination in Chemistry or Practical Chemistry.

A graduate of Arts may take either his second year and third year, or his third year and fourth year examinations at the same time.

Some steps will probably be taken this coming year to do away with this as quite a number of Arts graduates have voluntarily taken the four years course.

The standard in matriculation will likely soon be raised also. At present it is equivalent to an Arts Matriculation the same as in the East, but there is no higher standard of matriculation maintained by the College of Physicians and Surgeons as is done by the Ontario Council. Neither is there any fifth year in medical education, unless one chooses to take a hospital appointment, but this is a defect which can be remedied.

The examinations are fairly stiff, and, in the springtime—exams. being held but once a year—"many are called, but few are chosen."

There have been some changes on the Faculty of the College since last year. Dr. Todd has been elected to the chair of Anatomy, rendered vacant by the death of Dr. Neilson. Dr. James McKenty and Dr. James Pullar have been appointed Assistant Demonstrators of Anatomy. Dr. W. L. Watt will conduct the Practical and Physiological Chemistry, and Mr. J. S. Pierce will teach the Inorganic and Organic Chemistry of the first and second years.

THE JUBILEE OF THE MEDICAL DEPARTMENT OF QUEEN'S UNIVERSITY.

The Medical Department of Queen's University, Kingston, celebrated its Jubilee, on the 14th, 15th and 16th of October.

The full fifty years of its existence will not be completed until the close of the present session, but it was thought advisable to hold the function this autumn and at the same time as the ceremonies in connection with the installation of the Rev. D. M. Gordon, D. D., the new Principal of the University.

The causes that led up to the establishment of a medical school in Kingston were not numerous.

At the time of its birth, Trinity University, Toronto, required her graduates to subscribe to the "thirty-nine articles." This, some eight of her undergaduates refused to do, and petitioned the physicians of Kingston to establish a medical college in connection with Queen's University, where classes &c., would be opened to all irrespective of creed.

So great was the opposition that in the following year, Trinity abandoned the "obnoxious tests," so far at least as the medical graduates were concerned.

The petitioners were: Daniel Chambers, Robb Douglas, Samuel Dunbar, Weston L. Herriman, Wm. Hillier, Jno. F. Mercer, W. S. Scott and H. W. Spafford.

Of these all but Dr. Herriman, who was a central figure in the jubilee proceedings, have passed to their reward.

The first faculty consisted of Dr. Sampson, Dr. Horabis Yates, Dr. Stewart, Dr. J. R. Dickson, Dr. Wm. Hayward and Dr. Fife Fowler. The last of these, Dr. Fife Fowler, long the dean of the medical faculty, passed away but a few months ago.

During the Session of '65-6 the relations between the medical and other departments of the university became somewhat strained and the medical faculty stepped out to form the Royal College of Physicians and Surgeons, a charter for which was granted to Drs. John R. Dickson, John Mair, Fife Fowler, Michael Sullivan, Roderick Kennedy, Donald McLean, Michael Lavell and R. A. Reeve. Of the eight, three only survive—Hon. Dr. Sullivan, Kingston, Dr. R. A. Reeve, dean of the Toronto University Medical Faculty and Dr. Kennedy, Bath, Ontario.

In 1891 owing to the efforts of the late Principal Grant. The original status was resumed, additions were made to the staff and an interchange of services arranged between the arts and medical faculties which has proved mutually advantageous.

The number of students has steadily increased. During the first session there were twenty-three including the eight Toronto students, last session there were in actual attendance, not including occasional students 205, and the session of '03-4 promises to surpass all others.

In the early days, classes were held in a small section of the building, now the Principal's residence. To-day, the home of the faculty is to be found in several Commodious and well-equipped buildings scattered over the campus.

The Jubilee addresses which were advisory, congratulatory, or reminiscent in character were delivered by Dr W. B. Geikie and Prof. Ramsay Wright, Toronto, Sir William Hingston, Montreal, Dr. H. H. Chown, Winnipeg, Dr. W. L. Herriman, Lindsay and Dr. McMurrich, Ann Arbor, Michigan. Their names are sufficient guarantee of the standard of excellence of their addresses.

The Jubilee proceedings closed with one of the best banquets ever held in the Limestone City.

MONTREAL MEDICAL COLLEGES.

The Medical Faculty of McGill University opened on September 23rd, and some 350 men had by that time registered, over 90 of these being freshmen. Including those who have sent there fees but not yet registered, the list will be fully as large as last year by the time the list closes. that is about 425 men. The regular class lectures commenced at once as the opening lecture has been postponed until later in the session.

For the first time in its history, Bishop's College commenced its working year in the middle of September, but notwithstanding this change of date from October 1st to September 15th the attendance was well up to the average already and it is expected that there will be an increase in the number of students this year over last. The faculty has rearranged the time table in order that the students may have more time for clinical instruction and individual work and have fewer hours to spend in the lecture room Owing to the accident to the dean, Dr. Campbell there was no opening lecture.

LONDON MEDICAL COLLEGE.

The attendance this session is larger than it was last year, and there are indications of a successful year.

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EDITORIAL.

THE NEW ERA OF MEDICAL EDUCATION IN ONTARIO.

It may truthfully be said that the teaching of medicine has entered upon its final stage in the Province of Ontario. The union of the two teaching bodies in Toronto, and the saving that must arise through concentration of efforts, will enable much more thorough work to be done. Three sets of persons stand to gain by this : those who teach, inasmuch ar they will realize that, under the new conditions, their work is far more effectively done ; the students, whose opportunities for obtaining a thorough knowledge of that profession to which they have pledged themselves will be multiplied manifold ; and the general public, which will gain by the steady elevati n of the standard of university medical education, rendered possible by the recent changes. This will work for good with the other colleges in the Province, and throughout the Dominion.

But with these added advantages, there must come new and great responsibilities. A university is great mainly because of the qualtity of work it does and the kind of men it brings to the front. A university is a centre of culture, as well as a centre of learning. While the university professor should live true to the ideals of Socrates, he should also follow in the footsteps of Eryximachus : the scholar and the gentleman must ever be found together.

The student of medicine in Toronto has now an opportunity for the pursuit of his studies never enjoyed before in either of the schools. The union that has been brought about will far more than double the results to be obtained from the labor and money formerly expended in furthering higher medical education. There will be the maximum of strength with the minimum of friction. But more, the student body can now accomplish greater things for their own welfare than they ever could have hoped to do while divided into two separate bodies.

Perhaps the happiest result of the arrangements that have been consummated will lie in the fact that it brings the time near to hand when post graduate work will be taken up in Toronto. A scheme could very easily be devised, whereby the members of the various hospital

staffs might coöperate in such an undertaking. Such a plan would have the happy effect of interesting many in the work of teaching that do not at present take any part in such work; and it would have the further, and desirable result, of multiplying the friends of the University. It would bring about a coöperation of the hospitals—a union of clinical material—as there has been a union of the schools. It only requires a little of that finer cement, to which Professor Osler referred, which has the power of binding men together, of making a corporate whole out of animate, rather than of inanimate, things. *Plus ratio quam vis cæca valere solet*,—reason, rather than blind force, is wont to prevail.

PROFESSOR SHERRINGTON'S ADDRESS.

It does not often fall to one's lot to hear so able an address as that delivered by Professor Sherrington, on the inauguration of the new medical building. Professor Sherrington has made for himself a wide reputation in physiology, and, more especially, in the physiology of the nervous system.

He called attention to the value of medical science to the community at large. It has been shown that preventive medicine has reduced the death rate in Britain, as compared with that of some years ago, so as to save annually 60,000 lives. Or, putting it another way, the dura- of life has been increased by about 6 years.

The lecturer pointed out the three kinds of workers in science. The investigator, who seeks truth and knowledge; the teacher, who diffuses the knowledge won; and the applier of knowledge to practical needs. A protest was rightly entered against the opinion that the pursuit of science made men unpractical. It is the investigator in science that has been the greatest wealth producer in the world, as he has discovered principles and truths that have been turned to the advantage of trade, commerce and art.

Much stress was laid upon the value of laboratory work and research in medicine, as a means of counterbalancing the other side of medical advance, the empirical. The scientific side of medicine has now come to predominate over the empirical. The study of the body as a chemical machine, shows that the indestructibility of matter is really a question of the indestructibility of energy.

But these very advances in the science of medicine that have done so much for the community, have laid upon the community heavy obligations. In order that there be persons competent to carry on research, there must be the means at hand to train them in the proper methods,

and this requires buildings and apparatus, in other words efficient laboratories. But these cannot be obtained without money. It is clearly the duty of the state, the municipality, and the wealthy to aid scientific research, for in no other way can they get so sure and large a return for their investment. As medicine is the most precious of all the sciences, it should receive first and fullest aid.

Teaching has now become a laborious affair. He who would teach a subject must first learn it, and this requires much labor of both body and mind. There are some subjects that can only be properly taught by those who give up their whole time to them. This expert knowledge must be paid for; and, if good, is cheap at any price. With the growth of science, more and more of the work of a medical college must be placed on a solid financial basis : for no man can do thorough scientific work, whose time is broken in upon by other pursuits. There should not only, therefore, be laboratories and apparatus, but there should also be paid experts to man these, and teach those who are to care for the health of the people.

Laboratories become schools of thought. It is in them that men are taught and those discovered with the potentiality for future investigation on their own account. Suitable laboratories encourage post-graduate work. Genius cannot be made to order. All a community can do is to afford it the opportunity to blossom. This is the highest of all the functions of a University, and especially of its laboratory department.

PROFESSOR OSLER'S ADDRESS.

Dr. Osler is always good, but, in his address to the students on the opening of the session this year in Toronto, he was specially good. He preached a lay sermon of unusual power on the subject of the student's duty to his college, himself, and the public; and the sum of it all was "work." In order to do this to greatest advantage, it would be necessary to divide the day into portions for each study, so that none might be overlooked.

John Ruskin said that "Labor is the contest of the life of man with an opposite." And further he said, "The greatest thing a human soul ever does in this world is to *see* something, and tell what it *saw* in a plain way. Hundreds of people can talk for one who can think, but thousands can think for one who can see." The late Sir William Gull used to say, "That more mistakes are made by not *seeing* than by not *knowing*.

The great burden of Professor Osler's address, so far as the students are concerned, was regular, systematic work, the avoidance of worry, the proper enjoyment of student life and fellow-student companionship, the maintenance of a good state of health, and keeping free from entanglements of all sorts that divert the mind from regular study. Sounder advice could not be given. He urged on the student to collect a few good books and read them carefully. Professor John Stuart Blackie in his book, "Self Culture," remarks that the next best thing to being acquainted with a great man is to know his writings. Carlyle, addressing a body of Students on a certain occasion, said, "Above all things the interest of your life depends upon being diligent now, while it is called to-day. Diligent! That includes in it all virtues a student can have."

The difficulties and disappointments of student life were referred to from the standpoint of thirty-five years' experience as a teacher. Some must fall by the wayside, some will meet with disappointment just when success seems at hand, some may become distinguished teachers, while others have in store for them the life of a useful general practitioner. But every form of difficulty and opposition can be overcome only by effort, labor, work, diligence, devotion to the duties of the day. Goethe, who saw far into the mysteries and trials and misfortunes of life, has said :—

"The future hides in it
Gladness and sorrow :
We press still thorow ;
Nought that abides in it
Daunting us—Onward !"

Dr. Osler referred to the value of the student being alone, to the importance of sequestration, to the necessities of self-denial, in order that due time might be given to study. Sir Thomas Browne, in his *Religio Medici*, dwells upon this. *Munquam minus solus quam cum solus*—one is never less alone than when alone. "There is no man alone, because every man is a microcosm, and carries the whole world about him." Hear, too, what that great sage, Marcus Aurelius, says : "One's own mind is a place the most free from crowd and noise in the world, if a man's thoughts are such as to ensure him perfect tranquility within, and this tranquility consists in the good ordering of the mind. Your way is, therefore, to make frequent use of this retirement, and refresh your virtue in it. Be quiet, then, and disturb yourself no more. Upon the whole, do not forget to retire into the little realm of your own."

Professor Osler touched upon the very important topic of a student's reading. He urged that every student should have a small bed-side

library, and mentioned a few books that every student should read. It is very clear that he desired to warn his hearers against what the Germans call mere *Brodstudien*. An eminent Edinburg professor, John Stuart Blackie, on this subject speaks thus: "If a man will fix his mind on merely professional study, and can find no room for general culture in his soul, let him be told, that no professional studies, however complete, can teach a man the whole of his profession; that the most exact professional drill will omit to teach him the most interesting and the most important part of his own business—that part, namely, where the specialty of the profession comes directly into contact with the generality of human notions and human sympathies."

"Men may try many things," said the wise old bard of Weimar; "only not live at random." If a student will not live at random, it will be necessary for him to fix set times for calling himself to account.

> "And when he's summed the tale, wipe out the bad
> With gracious grief, and in the good be glad."

Aller Anfang ist schwer—all beginnings are difficult; and the more excellent the task the greater the difficulty. In moments of depression and despondency, act on the advice of Richter by recalling the memory of one's brightest. The student life is no time for trifling. Every student should constantly keep before his mind the words of the immortal Hippocrates: "Life is short, art long, opportunity fleeting, experiment slippery, judgment difficult."

PROFESSOR W. W. KEEN'S ADDRESS.

As might be expected, the address of professor Keen was able and practical. One would expect that a surgeon of forty years experience in teaching would look to the practical aspect of medical education. By an excellent line of thought, he had from the value of laboratories and and dissecting rooms, and a knowledge of anatomy, physiology and pathology, physiological chemistry, and bacteriology, to the application of this accumulation of knowledge to the treatment of disease.

What the laboratories and dissecting rooms are to the primary and scientific branches of a medical education, the hospital wards are to the final and practical subjects of surgery, medicine, obstetrics, and diseases of women. The ideal conditions for medical education are: A university with a high standard of qualification, sufficient and efficient laboratories for the scientific work, and a modern hospital with ample material for clinical teaching. With this exposition of the interrelationship between the scientific and the practical, all will at once concur.

But a hospital for such a purpose must be large ; and a large hospital requires much money for its erection, and a large income for its maintenance. The class of patients, suitable for clinical teaching, do not yield much revenue. Much of the funds for the maintenance of the hospital must, therefore, be found in some other way than that contributed by the patients.

The question at once arises, how is a hospital of sufficient size to be obtained ? In answer to this question several courses suggest themselves. Erect an entirely new hospital, with accommodation for about 400 beds, and the requisite lecture theatres and operating rooms. Or, take over some one of the present hospitals in Toronto, and reconstruct it so as to conform to the ideals of what such teaching hospital should be. Or, make use of all of the present hospitals in Toronto, by arriving at some working plan with their governing bodies.

The cost of maintenance has been steadily increasing for years, and charity patients now are a financial drain upon a hospital. It costs now from $5 to $7 per week to carry patients in Toronto. A large hospital, with much of its space given over to clinical and operating theatres, would be even more expensive than any of the hospitals now in Toronto. It would therefore require an income much in exess of that furnished by charity patients, to maintain such a hospital.

This raises the other question : How is the money to be obtained ? And to this query there are again several answers. First, there is the income from pay patients. If a hospital has a considerable number of attractive private wards, a material part of its revenue may be obtained from this source. Secondly, there are the gifts from the rich who erect wings, furnish wards, or create endowments. And thirdly, there are the grants that may be made by the Legislature and the municipality. It must be admitted that the income from a combination of private wards with public wards would be uncertain, as such wards, in a large hospital frequented by 300 or 400 students, might prove unpopular. But, even if they were attractive to pay patients, the revenue from such a source could never be large, when the cost of these private wards, the extra expense for delicacies and special nursing, are deducted from the charges made upon these patients. The income from donations and endowments in hand is definite enough, but to depend upon future bequests is quite precarious, and a hospital's income must be reasonably well assured. It would not do, therefore, to undertake the arduous task of erecting and maintaining a large hospital on the hope that large sums of money may be donated to it.

This brings the matter down to the plain, practical fact, that a hospital, suitable for clinical teaching, must be modern, large, well equipped and up-to-date in every way, and must be almost entirely for charity patients who, in themselves, yield no revenue. The up-keep of such a hospital must largely depend upon the grants made by the government and the municipality, on account of the charity cases treated within its wards. These grants must be made with sufficient generosity to place such a hospital beyond the need of passing around the hat. The city and government now allow a capitation grant on account of needy patients, and it would not require a large addition to these grants to make the revenue from these sources cover the outlay in caring for them.

Who could say that such an expenditure of the public funds would be wrong? In the first place, it would afford the means of treatment to those who cannot now pay for such themselves; and this principle has already been conceded. In the second place, such additional aid would place a new hospital, or those now in existence, on a safe financial footing. In the third place, so far as Toronto is concerned, it should be borne in mind that there are now some 700 medical students in the city. Each student will spend each session about $150 in fees; $150 in board and lodging; and $100 in books, instruments, clothing, etc., or a total of $500. This gives a grand total of $350,000 that the medical students spend annually in Toronto. In face of the above facts, the case is more than proven that the charity wards for the purpose of clinical teaching should be more liberally supported in the future than they are at present.

MUNICIPAL SANATORIA FOR CONSUMPTIVES.

Dr. E. J. Barrick, of Toronto, read, at the recent meeting of the Canadian Medical Association in London, a very interesting paper upon the above subject. There are few medical men who do not know how zealously Dr. Barrick has striven for a sanatorium for consumptives, in or near Toronto. If he has not succeeded in inducing the municipality to act, it is not his fault, but the fact is there were strong oppositions and much inertia to overcome. But the educating effects of Dr. Barrick's work have been most valuable.

In 1900, the Ontario Legislature passed an act, without a dissenting voice, that the Government would aid a municipality, establishing a sanatorium for consumptives, to the extent of one-fifth of the cost of the land and buildings. The Government also agreed that the weekly grant to such cases would be $1.50. The municipal grant towards the site and buildings, and the weekly allowance of $2.80, together with the payments from patients and their friends, and the donations of the charitably inclined, would be ample to found and maintain such a sanatorium.

In his paper, Dr. Barrick mentions that 8,000 people die annually of consumption in Canada, entailing a loss upon the State of $48,000,000. Now, this is not a visionary statement at all. The great majority of those who die of consumption, do so in the earlier years of useful life. The annuity value of $1 on such persons is at least $20, and it is quite safe to assume that each person, on an average, could earn $300 a year. This would make every young life lost a loss to the State of at least $6,000; and 8,000 such lives gives a loss of $48,000,000. Leprosy was once very common in Britain, but it is now stamped out. Isolation has accomplished this. Vaccination and compulsory isolation have chained that great destroyer, smallpox. With folded arms, however, the people look on and see at least 30,000 sick with consumption, of whom 8,000 die each year. The terrible truth remains that not one of these cases is possible without a previous one from which to obtain the infection. Heredity here, or heredity there, it is a case of infection first, last, and always. No seed, no crop; no germ, no disease! and yet we sleep! Who shall shout into the ears of the people *miseris succurrere disco* with such energy as to break the heavy slumber of indifference, and bring hope to the suffering and protection to the well? Such an event is not far off we predict.

Dr. Barrick moved and Dr. R. W. Powell, of Ottawa, seconded the following resolution which was unanimously carried:—

"Whereas the removal of cases of tuberculosis, and especially those occurring among the poorer classes of the community, to conveniently located and well regulated hospitals, is in the best interest of both the sick themselves and the community generally, and no doubt goes far towards preventing the propogation of the disease; and, whereas, it is now an accepted fact that municipal sanatoria are the best, the most economical and the most efficient means of providing for their care, it is hereby resolved:—

"That municipal sanatoria for consumptives, in accordance with the Ontario Act respecting such, would be an important factor in checking the spread of this disease, and that, therefore, this association desires to urge such local action by members of this association as will tend to have by-laws submitted in their respective counties or districts, thereby rendering possible Government and Municipal Coöperation in this necessary work."

We wish Dr. Barrick every success in his efforts to draw the public attention to this vital question. Much education is always required, in such matters, before action is taken; but we think action will soon be taken in many quarters. When the people demand sanatoria, the municipal authorities will act.

QUEEN'S UNIVERSITY MEDICAL FACULTY.

Fifty years ago, the Medical College in Kingston was established, as part of the University. In 1865, under the name of the Royal College of Physicians and Surgeons, the Medical College took on an independent existence and has made an honourable reputation for itself.

But a new step has been taken. The Medical College in Kingston is now The Medical Faculty of Queen's University. This is a move in the right direction. The day for the proprietory form of Medical College is past. Better work can be done and a higher status attained by a college being an integral part of a university. The Medical College in Kingston has very wisely recognized this and become one with the University.

Dr. J. C. Connell has been chosen as the Dean of the Medical Faculty. We wish much success for the Medical Faculty of Queen's and for Dr. Connell, the Dean.

PERSONAL AND NEWS ITEMS.

Dr. Geo. Fletcher has decided to locate in Petrolea.

Dr. T. Wickett has sold his practice in Petrolia to Dr. Gibson.

Drs. Brown and Towie have opened a hospital at Pigeon River.

Dr. Stewart, a graduate of Queen's, has decided to locate at Rosenroll.

Dr. F. S. Hepworth is very ill, in St. Boniface Hospital, with typhoid fever.

Dr. Vrooman, of Winnipeg, had a month's visit to New York and Chicago.

The funeral of Dr. Hepworth took place on 23rd September, in Winnipeg.

Dr. Roddick Byers and Miss Davis were married, Sept. 28th, at Gananoque.

Dr. Archibald Moir, of Dunnville, was married at Baillieboro to Miss Edna Byers.

Dr. J. A. Dickson has been appointed an associate coroner for Wentworth county.

Dr. W. A. Gray, Smith's Falls, has gone to New York for a month in the hospitals.

Dr. J. M. McCallum, of Toronto, and Miss McMaster were married 30th September.

Dr. G. S. Richardson, Newmarket, and Miss Laura B. Elliott were married on 7th October.

Dr. F. Parker, formerly of Bruce Mines, intends going to Europe for post-graduate study.

Dr. Rogers, Winnipeg, has returned from the London meeting and a trip through the U. S.

Dr Woollard, Winnipeg, has about recovered the use of his arm after 9 months invalidism.

The engagement of Dr. L. F. Barker, of Chicago, and Miss Halsey, of Baltimore, is announced.

Dr. W. F. Templar, of Brantford, and Miss Westbrook, Echo Place, were married 21st October.

Miss Alice Gilmour and Dr. E. B. Moles, of Brockville, were married in the early part of October.

Dr. A. Newman, of Montreal, was married a couple of weeks ago to Miss Cruickshank, of Pictou.

Dr. Sinclair, of Manitou, and Miss McBeth, of Fort Ellice, were married in Winnipeg recently.

Dr. Morrison, of Walkerton, has purchased the property and practice of the late Dr. McArton, of Paisley.

Dr. J. E. Campbell, Montreal, has been appointed house surgeon at the civic isolation hospital, Ottawa.

Dr. Ephraim Sherwood, of Omaha, recently visited friends in Brockville, after an absence of 36 years.

Dr. J. L. Huffman, formerly of Aylmer, now of Arkona, was married in September to Miss McCollum, of Lakeview.

Dr. James R. Cox, of Ottawa, is going to West China as a medical missionary. He graduated from McGill in 1900.

Dr. Sinclair, of Walkerton, is recovering from the recent severe injury which he sustained by being thrown out of a rig.

Dr. E. Hull, who has spent more than a year studying in Edinburgh, London, and on the Continent, has returned to Winnipeg.

The many friends of Dr. R. A. Reeve, Dean of the Medical Faculty, University of Toronto, will be glad to hear of his recovery.

Dr. Irving, of Yorkton, and Miss R. E. Teeple, lately head nurse in the Winnipeg General Hospital, were married a short time ago.

Dr. E.W. Montgomery, of Winnipeg, left a few weeks ago for a visit to his California estate after an illness of some months duration.

Dr. James A. E. Steeves, of St. John, N.B., was married a short time ago to Catherine, daughter of the late Dr. Murphy, of the same city.

Surgeon Brice, of the White Star liner Germanic, has crossed the Atlantic 804 times, sailing 25,000,000 miles. He hopes to make 900 trips.

Dr. Duncan, of Union, was thrown out of his rig, his horse taking fright. He was injured slightly, and Mrs. Duncan had her arm broken.

Dr. Macdougall King, well known in Toronto, has gone to Denver and has been appointed instructor in physiology in the Medical College.

Dr. Chown, of Winnipeg, after attending the Canadian Medical Association Meeting at London, paid a visit to Kingston and Montreal.

A pretty wedding took place in St. Thomas on 16th September, when Miss McLean was united in marriage to Dr. D. A. Cameron, of Dutton.

Dr. J. M. Watters, for the past year house surgeon at the Hospital for sick children, Toronto, and his wife have gone as missionaries to Central India.

Dr. Morris Baily. of Titusville, Pa., on celebrating his 85th birthday, stated that $42,000 on his books would be wiped out as a birthday present to his patients.

Dr. Dan A. Sinclair, son of Dr. Sinclair, of Toronto, was made the recipient of a pocket case of surgical instruments on the eve of his going to London for post-graduate study.

Dr. Geo. M. Hall, who had charge of the ambulance corp that was summoned to the aid of President McKinley, has left Galt and will locate in Buffalo. He was paid $2,000 for his services to the President.

Dr. D. L. Herriman, of Lindsay, who graduated from Queen's in 1854, took an active part in the recent celebrations of his alma mater. He was one of eight who left Toronto because of the religious test and petitioned Queen's to form a Medical Faculty.

In spite of the difficulties and disappointments encountered at the beginning, in trying to obtain funds for the same, some arrangements have been made whereby the directors are enabled to rapidly proceed with considerable extensions and additions to the Winnipeg General Hospital. It is hoped to have the roofs on before the snow comes.

Typhoid fever seems to be even more prevalent than it usually is at this time of the year in the Province of Manitoba. One of the Industrial Exhibition buildings, Winnipeg, has been pressed into hospital service for typhoid fever cases. The building will accomodate 35 patients and is in charge of a house surgeon and staff of nurses from the Winnipeg General Hospital.

OBITUARY.

R. A. BUCK, M. D.

Dr. R. A. Buck, who had for the past seven years been a member on the Public School Board of Toronto, died on 3rd October, at his residence, 195 Dunn Avenue. Death was caused by paralysis, which first attacked Dr. Buck 18 months ago, other strokes following at intervals. After sustaining the first attack, Dr. Buck relinquished his practice, but he continued to attend to his duties in connection with the School Board. He acted as Chairman during the absence of Chairman Godfrey in Europe, and in this capacity he presided over the Board at its meeting of September 3, and he attended a meeting of the Management Committee about three weeks before his death. He was one of the most efficient members of the Board, and for three years had been Chairman of the Management Committee.

W. I. GOODWIN, M. D.

The many friends of Dr. W. Irving Goodwin will be grieved to learn of his death which occurred on the 24th September, at his late residence Oxford, N. S., in the thirty-sixth year of his age. He had been in failing health for some years, and about four months ago was obliged to give up work.

E. G. SIMPSON, M. D.

Dr. E. G. W. Simpson, age 27 years, son of A. F. Simpson, Collector of Inland Revenue, died at his home in Lennoxville, September 23rd, of typhoid fever. Dr. Simpson was a graduate of McGill, and last year was a member of the Montreal General Hospital staff.

GEORGE MENZIES, M. D.

Many persons will regret to learn of the death by plague at Mhow, India, of Dr. George Menzies, son of Mr. Wm. Menzies, of Ailsa Craig.

Dr. Menzies went to India less than a year ago and was appointed to care for the famine boys, for which work his medical knowledge and industrial aptitudes specially fitted him.

DR. CARNEGIE.

Dr. Carnegie, a well-known young physician attached to the Allan Liner Bavarian, died rather suddenly on board the vessel 20th September. Dr. Carnegie was out with the Bavarian to South Africa when she was a transport, and contracted enteric fever, from which he never fully recovered. He was a general favorite.

WILLIAM HUNTER, M.D.

Dr. Wm. Hunter had been in failing health for some time. About a year ago he gave up his studies at Queen's University and went to Wyoming, but the change did not prove as beneficial as he hoped and about two months ago he returned to his home in Smith's Falls. His decline since that time was rapid and it was only too evident that the end could not be far off. Dr. Hunter was a young man of unusual attainments and his death cuts off a promising career. He took an Arts course at Queen's and later he took up the study of medicine. He was in his final year when his health began to fail and he reluctantly gave up his studies. In consideration of his previous high standing, however, he was granted by the college authorities his degree in medicine. Personally he was esteemed by all who knew him. Dr. Hunter was only 26 years of age.

A. C. BOURBEAU, M.D.

The death occurred, on 29th September, of Dr. A. C. Bourbeau, at the family residence, 499 Broadway, Winnipeg. Death was caused by typhoid fever, from which the deceased had suffered for two weeks. The late doctor was extremely well known and popular in French circles in the city. He was just on the threshold of what promised to be a most brilliant professional career, for he had taken the highest honors during his studies at Laval, Quebec, of which university he was a graduate. He was little over twenty-five years of age. He had started practice at Lorette, but contracted the illness which proved fatal at St. Pierre, where he went for a murder inquest.

HON. GEORGE LANDERKIN, M.D.

Hon. George Landerkin, M.D., died on 4th October, in Hanover. A month ago he returned home from his labors at Ottawa, and complained of feeling ill. He gradually sank into a comatose condition. He rallied, however, and his recovery was hoped for, but on 2nd October he again sank into coma.

The outstanding facts in Senator Landerkin's life are these : He was born in West Gwillimbury on the old homestead still known by the family name. His father, a Nova Scotian, had settled there in 1824, and the son was born in 1839 and worked on the farm, resting occasionally, till his seventeenth year, when he went to Victoria University. He graduated in 1862 and commenced practising in Huston, Wellington county, removing the following year to Hanover, where he has lived all his life since, bringing as his bride in 1870 Mary, daughter of Joseph Kirkendall, of Elora. He entered Parliament for South Grey in 1872, was defeated in 1878, returned again in 1882 and sat continuously till 1900. He was appointed to the Senate in February, 1901.

When he left Ottawa some weeks before his death he seemed to be in perfect health. Stout of frame, ruddy of cheek, and active in movement, he seemed destined to live far beyond the allotted span of man. To see Senator Landerkin in the cricket field was a matter of wonderment. He batted vigorously and fielded with incredible agility for his age and weight. He often played with the newspaper men, and during the past summer was one of a Parliamentary team that fought against a team from Rideau Hall. Senator Landerkin entered political life at the age of 33, and won his political spurs on many a hard-fought field. He was a very witty speaker, his humor being spontaneous and good-natured. He cracked many a joke at the expense of political friends and foes alike, but his witticisms left no sting behind. The late Senator was always in a happy frame of mind, and had a smile and a jest for everyone.

G. C. FIELD, M.D.

Police Magistrate Dr. G. C. Field died on October 14th after an illness extending over the greater part of a month. He was 73 years of age and had occupied the post of magistrate for 24 years. Previous to his appointment he conducted a large medical practise in this city. He was mayor for two years and a prominent figure for a long time in municipal life. He leaves a wife and four children.

BOOK REVIEWS.

A TEXT-BOOK OF THE PRACTICE OF MEDICINE.

Sixth Edition, Thoroughly Revised.

A Text-Book of the Practice of Medicine. By James M. Anders, M. D., Ph. D., LL. D., Professor of the Practice of Medicine and of Clinical Medicine, Medico-Chirurgical College, Philadelphia. Sixth Edition, Thoroughly Revised. Handsome octavo volume of 1300 pages, fully illustrated. Philadelphia, New York, London: W. B. Saunders & Company, 1903. Cloth, $5.50 net; Sheep or Half Morocco, $6.50 net.

This is the sixth edition of this unexcelled work in as many years. Such a sale cannot but be a gratification alike to the author and to the publishers. In this edition the general plan and principles of classification adopted in the previous editions have been preserved. The many tabular presentations of points in differential diagnosis have been retained. Differential diagnosis is a most important branch of diagnostics, and than this tabular method we know of no superior way of familiarizing the practitioner and the student with the outstanding features of simulating diseases. Malaria, yellow fever, bacillary dysentery, cholecystitis, certain animal parasitic diseases, and the use of the x-rays in diagnosis and treatment have been fully discussed, incorporating the results of the most recent investigations. Among the new subjects introduced are Paratyphoid Fever, the Fourth Disease, Trypanosomiasis, Orthostatic Albuminuria, Transcortical Aphasia, Adiposis Dolorosa, and Amaurotic Family Idiocy. Every affection has been treated separately, particular attention being paid to its clinical character, diagnosis, and treatment. Evidently an immense mass of literature has been thoroughly digested, no pains having been spared to bring the entire work down to date, giving special reference to the daily needs of practitioners and students.

In recommending it, we believe we are recommending an excellent text-book on the Practice of Medicine on the market.

NERVOUS AND MENTAL DISEASES.

Fourth Edition, Thoroughly Revised and Enlarged.

Nervous and Mental Diseases. By Archibald Church, M. D., Professor of Nervous and Mental Diseases and Head of Neurological Department, Northwestern University Medical School; and Frederick Peterson, M. D., President New York State Commissioner in Lunacy; Chief of Clinic, Department of Nervous Diseases. College of Physicians and Surgeons, New York. Fourth Edition, Thoroughly Revised and Enlarged. Handsome octavo volume of 922 pages, with 338 illustrations. Philadelphia, New York, London: W. B. Saunders & Company, 1903. Cloth, $5.00 net; Sheep or Half Morocco, $6.00 net.

This is the fourth edition of this excellent work in as many years. The Revision, indeed, has been thorough, all the latest knowledge on

the subjects having been incorporated, including the recent work regarding the healing of nerves. The subject of Intermittent Limping, now definitely known to depend upon a lesion of the posterior root ganglia, and Herpes Zoster have been given a section each. Another addition is the discussion of that form of epilepsy marked by myoclonus, furnishing the so-called Combination Disease. Further importance has been given to symptomatology and symptomatic disturbances, and the diagnostic value of astereagnosis and of Kernig's Sign has been elaborated.

We also find that there have been added a large number of new and excellent illustrations. A useful addition to the portion of the book devoted to Insanity is a new section consisting of a critical review of the German Schools which have recently made each important advances in psychiatry.

In many ways this work will be found of unusual assistance not only to the specialist, but also to the student and general practitioner.

A TEXT-BOOK OF DISEASES OF WOMEN.

A Text-Book of Diseases of Women. By Barton Cooke Hirst, M. D., Professor of Obstetrics in the University of Pennsylvania; Gynecologist to the Howard, the Orthopedic, and the Philadelphia Hospitals. Handsome octavo volume of 675 pages, sumptuously illustrated with some 650 mostly original illustrations, many in colors. Philadelphia, New York, London: W. B. Saunders & Co., 1903. Cloth $5.00 net; Sheep or Half Morroco, $6.00 net.

This latest work of Dr. Hirst's is on the same lines as his "Text-Book of Obstetrics." As would be expected from a practical teacher, diagnosis and treatment have been given particular attention. The palliative treatment, as well as the radically operative, is fully described, enabling the general practitioner to treat many of his own patients without referring them to a specialist. A feature which specially impressed us is the thorough manner in which the author has treated modern technic of gynecic surgery. An entire section is devoted to a full description of all modern gynecologic operations, illustrated and elucidated by numerous photographs taken especially for this work. The author's training in the subject of diseases of women has been like that of the specialists in the Teutonic countries of Europe, where gynecology has reached the highest level of perfection: namely, specialization in the diagnosis and treatment of diseases of women has followed a thorough training in the recognition and treatment of the complications and sequels of childbirth. This special training is evident throughout the entire work in the careful and thorough manner in which the subject is treated. The many illustrations are the most magnificent we

have ever seen. With but few exceptions all are entirely original, having been reproduced from photographs and water colors of actual clinical cases accumulated during the past fifteen years. We must heartily congratulate Dr. Hirst and his publishers upon the production of such a magnificent work.

DORLAND'S AMERICAN ILLUSTRATED MEDICAL DICTIONARY.

Third Edition, Thoroughly Revised.

The American Illustrated Medical Dictionary. For Practitioners and Students. A Complete Dictionary of the Terms used in Medicine, Surgery, Dentistry, Pharmacy, Chemistry, and the kindred branches, including much collateral information of an encyclopedic character, together with new and elaborate tables of Arteries, Muscles, Nerves, Veins, etc.; of Bacilli, Bacteria, Micrococci, Streptococci; Eponymic Tables of Diseases, Operations, Signs and Symptoms, Stains, Tests, Methods of Treatment, etc., etc. By W. A. Newman Dorland, A. M., M. D., editor of the "American Pocket Medical Dictionary." Handsome large octavo, nearly 800 pages, bound in full flexible leather. Philadelphia, New York, London: W. B. Saunders & Company, 1903. Price, $4.50 net; with thumb index $5.00 net.

The rapid exhaustion of two large editions cannot but be a gratifying proof to the editor and publishers that this excellent work meets the varied needs of physicians and students better than any other dictionary on the market.

In this the third edition several hundreds of new terms that have been added to the vocabulary of medical sciences have been incorporated and clearly defined. The entire work, moreover, has evidently been subjected to a careful revision, and many of the tables, notably those of Acids, Bacteria, Stains, Tests, Methods of Treatment, etc., have been amplified, and their practical value greatly increased. It is only by such constant and careful revision that a medical dictionary can hope to reflect the progress of medical science, and the usefulnes of this work by this present revision has been very largely extended.

DISEASES OF WOMEN.

A Text-book for the use of Students and Practitioners of Medicine. By Thomas A. Ashby, M. D., Professor of Diseases of Women, University of Maryland; Fellow of American Gynecological Society, etc. Price in cloth, $4.50; half leather, $5.00. Wilkins & Wilkins Company, Baltimore, Md., 1903.

This work is specially prepared for students and practitioners. In a concise way the main subjects of diseases of women are presented. There is a historical sketch of gynaecology, which forms a good introduction to what has been done in this branch of medical science. The anatomy and anomalies of the female generative organs are fully des-

cribed. There is a very excellent chapter on the function of menstruation, and the relationship of its derangements to female diseases. In the chapter on physical diagnosis, much stress is laid upon the necessity for always making a thorough examination of the organs in detail. Much attention is paid to aseptic surgery and the technique to secure the same, and how to sterilize dressings and instruments. In the regular subjects of disease, the author begins with the vulva and proceeds regularly upwards to those of the vagina, uterus, tubes, ovaries, and pelvic cavity. All useless matter is excluded, and only the most reliable methods of treatment or operating given. The work is intensely practical in its character.

Many of the illustrations have been drawn from nature and from photographs taken from life. They represent true pictures and are reliable in every detail.

NOSE AND THROAT WORK FOR THE GENERAL PRACTITIONER.

By George L. Richards, M. D., Fellow American Laryngological, Rhinological and Otological Society ; Fellow American Otological Society ; Associate Editor Annals of Otology, Laryngology and Rhinology ; Otologist and Laryngologist Fall River Union Hospital, Fall River, Mass. Price $2.00. Published by International Journal of Surgery Co., N. Y.

This book derives especial importance from the fact that the diseases described therein constitute so large a share of the physician's daily routine of practice. It has been the author's aim to teach the practitioner how to diagnose these cases and how to treat them successfully according to modern methods. With this object in view every effort has been made to describe the treatment in such detail as to leave no point obscure, and to simplify the technics as much as possible so as to avoid the necessity of an elaborate and expensive armamentarium. No space is occupied with theory, and the information given is based for the most part upon the author's own extensive clinical experience in diseases of the nose and throat. For the sake of completeness a number of conditions are discussed which properly belong to the specialist, but with these few exceptions the diseases described are such as can be treated by the general practitioner. A noteworthy feature of this work is the large number and excellence of the illustrations.

MISCELLANEOUS.

ANTIPHLOGISTINE VS. PNEUMONIA.

How does Antiphlogistine abort pneumonia, and further, how does Antiphlogistine resolve pneumonic consolidation? These queries are very often made by acute observers who have attended case after case of pneumonia with favorable termination under the influence of Antiphlogistine.

The action of Antiphlogistine is dependent upon well-defined physiological laws,—that a most important reflex association exists between the vessels of the skin and the underlying tissue; that, when the superficial blood-vessels dilate, the deep-seated ones contract. Continuous stimulation of the cutaneous reflex maintains continued relief by persistent contraction of vessels in the inflamed area of lung tissue. Such governing action prohibits extension of the products of inflammation through infiltration by effecting rapid absorption and elimination of toxines. The infected area becomes self-limited as the adjacent blood-vessels supply well-aerated blood to compensate for the surcharged venous blood due to pulmonic consolidation. Under reflex control Antiphlogistine resolves hepatization of lung tissue and through osmosis and dialysis assists the superficial blood-vessels and lymph spaces to drain the hyperaemic parts by direct capillarity. Lessened blood-pressure prevents administration of whipping medication to the overburdened heart.

TO PREVENT INFECTION.

A practical and helpful series of rules for the sanitary management of contagious and infectious diseases, has been prepared by The Palisade Manufacturing Company of Yonkers, and issued in pad form with a cover.

It is intended that when called to a contagious case, the physician shall sign and hand to the attendant one of these printed sheets of "Precautions to be Observed by Patient, Family and Attendants." This series of rules, couched in plain, every-day English, has been carefully prepared, and the information given is accurate and up-to-date. The delivery of such a signed code of instructions not only impresses the family favorably, but also relieves the physician of all responsibility should any of the necessary precautions be omitted. The advertising of Berolyptol is so arranged that, if the physician desires, he can detach all reference to the preparation before handing the directions to the family.

One of these pads (thirty-two sheets) will be mailed to any physician who may apply for same.

"THE LAW AND THE DOCTOR."

Amid the multiplicity of his daily duties, the physician has but scant time to cultivate more than a passing acquaintance with the collateral branches of his profession; the average practitioner, therefore, knows but little of the legal aspect of his relations to the body politic, or his rights and privileges, or his liabilities and responsibilities to his patients and the community at large. While pursuing the "even tenor" of his professional way, the doctor may suddenly be confronted with a summons and complaint in an action for malpractice, or may be called as an expert witness in a similar suit against a colleague. While it is not our intention to urge the physician to become his own lawyer, we believe that he should acquaint himself with the fundamental principles of medical jurisprudence, so that he may be reasonably well prepared to defend his own or his brother physician's rights and privileges on the witness stand. With a view of placing such information at the immediate disposal of the doctor, The Arlington Chemical Co. has arranged to issue under the title "The Law and the Doctor," two 48-page booklets which shall present in condensed form and succinct style, an epitome of the essentially important features of (1) "The Civil Liability of the Physician for Malpractice" and (2) "The Physician as a Witness." These exceedingly practical monographs have been expressly prepared by an eminent member of the New York Bar, who is well recognized by the legal profession as an expert in this special branch of practice. The first of these reference text manuals is now ready for distribution, and after a reasonable interval will be followed by a second monograph.

Copies may be had by applying to the above Company.

"HOME NURSING."

We have recently received a book entitled "Home Nursing," published by Davis & Lawrence Co., Ltd., Montreal This publication contains practical instructions for the performance of all offices pertaining to the sick. It tells what to do in case of accidents, treats with nearly all the diseases to which human flesh is heir, as well as containing many recipes for preparing solid and liquid food for the sick. No home should be without a copy of it. It is a very attractive book of about 50 pages, and can be obtained on application to the publishers, Davis & Lawrence Co., Ltd., Montreal, enclosing to them 5c. in stamps to cover the expense of mailing, etc.

NASO-PHARYNGEAL CATARRH.

Edmond John Melville, M.D., C.M., Bakersville, Vt., writes that for the treatment of this disease he usually follows these lines: Have the patient take a hot mustard foot both, followed by a hot pack, where practicable, administer a saline laxative and a Dover's powder and put the patient to bed between warm sheets and keep him there for at least twelve hours. In conjunction with the above, he makes it a routine practice to prescribe Glyco-Thymoline used in the K. & O. Nasal Douche every two hours, diluted one to four with warm water. This bland solution remains in contact with the mucous membrane for a considerable period of time, on account of its oily consistency and relieves inflammation by exosmosis, depleting engorgements rapidly. The above treatment followed out faithfully and well by physician and patient, will cure the most severe case of acute naso-pharyngeal catarrh in twenty-four hours. This means in a great many cases the breaking up of an incipient case of la grippe, bronchitis, or even pneumonia, as we all know the tendency of acute inflammation of the mucous membranes to extend to adjacent structures by contiguity of tissue.

All of his patients who are at all susceptible to colds are now equipped with a supply of Glyco-Thymoline and a K. & O. Nasal Douche, with instructions to begin its use upon the first symptom of a naso-pharyngitis coming on.

CLINICAL EXAMINATION OF THE GASTRIC CONTENTS.

We have received a copy of "Clinical Examination of the Gastric Contents" and are confident that it is worthy of more than a passing notice. This publication is the third of a series of scientific monographs, those already distributed to the profession being the "Essentials of Hematology" and "Syllabus of Bacteriology," published by the Palisade Manufacturing Company and the New York Pharmacal Association.

MELANCHOLIA, INSOMNIA AND GENERAL LOWERING OF NERVE POWER.

In a very forceful and exceedingly interesting paper on this subject, published in the *Cincinnati Lancet Clinic*, Dr. T. D. Fink of Louisville, Ky., writes the following :—"I am convinced that there is no other remedy so useful and attended with such satisfactory results in the treatment of melancholia with vasomotor disturbances, anemic headache, emotional distress, and active delusions of apprehension and distrust as Antikamnia Tablets. These tablets also increase the appetite and arterial tension, promote digestion, and are particularly serviceable in relieving

ing the persistent headache which accompanies nervous asthenia. In neurasthenia, in mild hysteroid affections, in the various neuralgias, particularly ovarian, and in the nervous tremor so often seen in the confirmed drunkards, they are of peculiar service. Patients who suffer from irritable or weak heart, needing at times an analgesic, can take them without untoward after-effects, knowing that the heart is being fortified. In delirium tremens, they relieve when there is a great restlessness with insomnia and general lowering of the nerve power. The pain of locomotor ataxia yields to treatment with Antikamnia Tablets in a remarkable degree, their analgesic power being of a peculiar kind, in that they will relieve painful affections due to pathological conditions of the peripheral nerves, as neuritis, etc., also lumbago, sciatica and myalgia. In chronic catarrh of the stomach, with its often accompanying headaches, in cardiac dropsy, and in ascites, they are of decided benefit."

GUDE'S PEPTO-MANGAN.

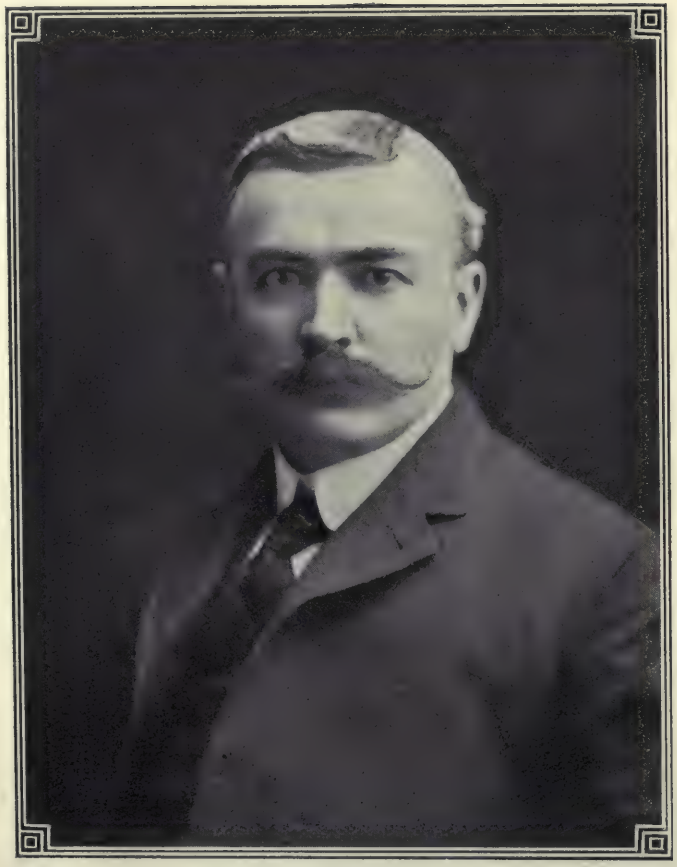
The Dietetic and Hygienic Gazette, commenting upon the dietetic value of Iron, says:

"Pathologists have given pointers as to the special condition of the iron in the system and in the circulating medium, and the newer preparations aim to imitate that condition. Most of them have a brief day of fame and then drop out of sight, for the reason that they lack some element of reliability. Few are standing the test of time and the critical ordeal of the clinicians. Foremost among these it is safe to name Gude's Pepto-Mangan. It is probably the nearest approach to a physiologic reproduction yet devised. It deserves its universal popularity, and its manufacturers do well to restrict its sale to strictly ethical channels."

From *Medical News,* New York:—'Iron preparations spring up like mushrooms in a night. The one backed by clinical evidence in hospital practice is the old stand-by GUDE'S PEPTO-MANGAN, which is the standard of known worth and which gives positive results."

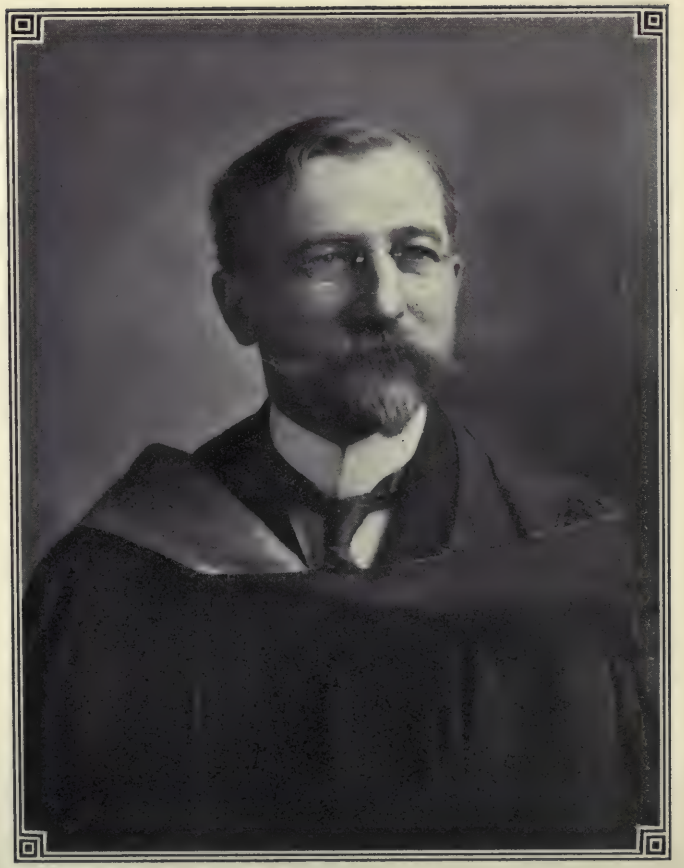
CLINICAL EXAMINATION OF THE GASTRIC CONTENTS.

The New York Pharmacal Association have issued a handsome little booklet under the above title. It gives in brief form much excellent information, and contains some very attractive illustrations. The medical profession will no doubt appreciate this little book from the manufacturers of Lactopeptine.



J. C. CONNELL, M.A., M D ,

Dean of the Medical Faculty of Queen's University, Kingston, and Professor of Diseases of the Eye, Ear, Nose and Throat.



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EXPERIENCES IN THE TREATMENT OF PELVIC DISEASES IN THE FEMALE INSANE.*

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GENTLEMEN,—I have selected the subject of the treatment of pelvic disease in the female insane as one that will be of great interest to all who are engaged in the general practice of medicine. I have nothing new to bring before you. I simply wish to lay before you the results of personal experience in this work, as I believe the function of a medical society is that of sifting the evidence given by individual practitioners, passing judgment upon it, rejecting what is useless, and retaining that which appeals to them as satisfactory. My first attempt in this direction was some five years ago. A married lady, aged 35, a former patient, had been committed to the asylum for the insane during my absence in Europe. I received permission from her husband to examine her. At that time she had been in the asylum two years and eight months, and was considered one of the worst cases of acute mania in the Institution —was frequently so unmanageable that she had to be placed under restraint. She was not allowed to wear her artificial teeth for two years on account of her biting everything she came in contact with. She was considered a hopeless case of mania. The medical superintendent considered her case hopeless. With the co-operation of that gentleman and a local physician. I examined the patient under chloroform, and found the right ligament was thickened, the left ovary prolapsed and enlarged, uterus immovable, and the perineum partly ruptured. Upon this finding I recommended operative treatment. She was removed to a private house, and placed under the care of two trained nurses. After dilatation and curetting, I found the right ovary enlarged and cystic, with tubal adhesions; the left ovary adherent in the culdesac. The appendages were removed. The operation was brief, practically bloodless. The stitches were removed on the twelfth day. The mental condition remained unchanged for some days. She continually endeavored to sit up in bed, to tear the bed-clothes, to bite and scratch the nurses. I was obliged to tie her hands on either side to the bed, and place a heavy

*Read at the Whatcome County Medical Society, Washington.

bandage over the body. On the fourteenth day after the operation she became quieter and recognized her mother On the seventeenth day she appeared a little more rational and took some interest in the surroundings. The following day I allowed her to see her daughter, now a bright girl of eleven years, whom she had not seen since entering the asylum. The meeting was not one soon to be forgotten. Day after day, after the physical strength increased, the mind became more capable of extended effort. Thirty-five days after the operation, accompanied by the nurse, I dined with the patient in her own home. It is now five years since. She has become restored to her family and friends, and has become a useful member of society. I herewith present her photograph. Such is the brief history of one who was considered a "hopeless case of insanity," "was not fit for operation," and who would have been doomed probably to this living death until the end of the chapter. This most satisfactory result was the means of my being privileged to examine not a few cases—in all 105.

My next case—a lady of 57 years of age, who had been confined in the asylum for two years—presented a slight degree of prolapse, and laceration of the perineum. She had suffered from pain in the back and side for six months. I found upon opening her abdomen intense varicocele of the tubo-ovarian plexus. I curetted and removed the appendages. Improvement followed, so much so that she was cared for by her children, not having to return to the asylum.

The third case—a lady, aged 52, who had suffered from ovaritis several years previously; had never been pregnant; had been in the asylum for three years. Examination showed uterus immovable, retroversion, and general pelvic adhesions; also adhesions of the clitoris with retention of the smegma. I freed the adhesions of the clitoris, removed the left appendage, and replaced the uterus, but failed to find the right ovary on account of the density of the adhesions. Insanity was completely cured. She had been restored to her home, and has been a satisfactory housewife ever since.

One more case, as illustrating the borderland variety of which we see so many. Case No. 65, Mrs. —, never pregnant, had complained of pain in her side for six years, for several years suffered from mental confusion previous to and during menstruation, would throw away her clothing, scream loudly, threaten suicide, etc. She had passed through the usual ordeal of treatment for misplacement, etc. Examination showed masses upon both sides of the uterus with dense adhesions. Operation showed right ovary enlarged, cystic, and containing a mass of hard blood clot, the size of a marble; left ovary enlarged, tubes disorganized by inflammation, universal adhesions. Convalescence normal; immediate mental recovery.

I have selected a few photographs of specimens removed which will be of interest to you. The first (case 21) is from a married woman who passed through a severe attack of sepsis following confinement. From the history given, I have reason to conclude that the gonnococcus was the active agent She was insane ten years, nine of which were spent in a Canadian asylum. She was considered a hopeless case of melancholia. No pelvic examination had been made previous to, or during her stay in the asylum. I found general pelvic adhesions, retroversion, and an enlarged ovary. Curettage, removal of the appendages, and ventrofixation was followed by recovery.

Case 26, Miss. X. aged 19, marked delusions with suicidal attempts, well defined history of appendicitis and more recent gonorrhœal salpingitis. The appendages, matted with inflammatory adhesions, were removed with the indurated appendix. Recovery.

Case 65, Mrs. M., married seven years, no children, pre-menstrual delusions for several months. Myometritis, retroversion, double haematoma of ovaries with dense adhesions. Curettage and removal of diseased structures were followed by mental recovery.

Case 68, Mrs. Z., insane three years. In asylum three years. Deep cervical tear, cystic ovaries. Amputation of cervix, resected right and removed left ovary. Slightly improved, but relapsed and was returned to the asylum.

The post operative treatment in these differed little from that of ordinary cases. Occasionally, a patient requires to be strapped to the bed, but in the vast majority of cases the nurse can control the patient's actions with very little trouble. The nurse should be strong in mind and body, and possess sufficient tact to enable her to cope with, conquer and dispel the slightest indication of the patient's return to former abnormal habits of thought or expression. I consider strong suggestion a valuable adjunct in the treatment of these cases.

It is not necessary to continue the repetition of cases, all of which in themselves being more or less interesting. Let us now endeavor to learn from the work here presented some direct lessons that may assist us, and if possible, to evolve principles that may be applicable in cases that may be presented to us. I have no arbitrary statements to make, only to lay before you the result of a few years work, and some thoughts upon the same, hoping that you will handle me without gloves, for we are anxious only to know the truth, for as expressed by one of your humorists " What is the use of knowing so much, if what you do know is not true ?"

The question of relationship, existing between the sexual organs and psychic phenomena, still invites investigation, and yet remains with-

out a fully satisfactory answer. During the last three years it has been demanding more and more attention in all countries where scientific medicine obtains, and is passing from the hands of the physiologist into those of the surgeon and pathologist. It is now a subject for clinical study and post mortem findings.

Before proceeding further, it will be necessary to define the terms "mental" and "pelvic disease." First, pelvic disease. I include under this term all pathological conditions of the pelvic organs of the female, that, in the opinion of our ablest gynæcologists, would be capable of producing discomfort, pains, functional, or systematic disturbance in those who possess normal mentality. With reference to such disputed points as movable, retroverted uterus, rare as it is, I am personally disposed to consider it abnormal, as there must necessarily be tension or pressure on surrounding parts. Very slight lacerations, without cicatricial tissue, I do not consider of much significance.

What constitutes mental disease or insanity is very difficult to determine. I shall give a definition evolved from the study of the cases under my care. In order to have a basis, I will postulate that there is something within us primarily greater than physical product, not conditioned, except in expression, by the physical mechanism—the Ego. To the extent that the Ego directs the activities and controls the reflexes, to that extent is the ideal human life exhibited. The ideal life, as distinct from that of the mere animal, is exhibited only when the activities of the organism are less the result of reflex action than those resulting from the direction and dominition of the Ego. So long as the organic structure is intact, so long as the system is free from disease, so long are the reflexes normal, but with a diseased periphery, nerve tract, or center, we expect abnormal reflex results. When this diseased arc is confined to those parts of the body which are not intimately concerned in psychic phenomena, we have but abnormal physical reflex, as shown in the exaggerated knee jerk of lateral sclerosis, but if the reflex arc includes the basal ganglia whose function is to exhibit psychic reflex, and if there be organic disease at any point in the continuity of this arc, then we must expect abnormal psychic reflex. The exaggerated knee jerk we call a symptom of physical disease, but we call the abnormal psychic result insanity, while in reality it also is a symptom of physical disease, differing from the former only as the functions of the parts diseased are different.

As the Ego can realize that exaggeration, or absence of the knee reflex is abnormal, so also it is capable to a limited extent of recognizing abnormal psychic reflex.

In the early stages of mental disease, hallucination is conspicuous in which the patient is still conscious of the unreality of the psychic reflex ; in the second, delusions, in which the Ego is limited and clouded, but yet exerts a measure of mental control ; in the third, definite insanity in which the Ego has been completely subjugated by the intensity of abnormal reflexes. *The insanity is the psychic sum of the physical abnormalties.* The focus of irritation may be in any of the large ganglia, or at the periphery of the sympathetic system, in any of the large cavities, or in fact wherever nerve tissue is found.

1. To recapitulate, we may conclude that insanity exists when the Ego is dominated and controlled by the influence from a diseased peripheral nerve tract or centre.

2. Since disease is subject to variation of intensity, a patient may oscillate between sanity and insanity as the Ego dominates and controls the organism, inhibiting abnormal psychic reflex, or is dominated and controlled by the intensity of such reflexes

3. Si ce the intensity or degree of the abnormal psychic action is the measure of the sum of the physical abnormalties, the removal of a small part of the physical disease might result in the restoration of the balance of power to such an organism and diminish, if not remove, the abnormal psychic phenomena.

As to the examination of cases—up to the present time I have examined 105 cases of women suffering from various degrees of insanity. Only in accutely maniacal and in very obstinate cases was anesthesia used. There was no apparent difference in the effect of the anesthesia in the examination of these than in ordinary cases. Out of this number examined, I found well marked abnormalties in all but nine cases, or in 91 per cent. The conditions varied from fibroid uterus to adhesions of the clitoris. In less than 20 per cent. was there any knowledge of pelvic disease on the part of either patient or friends. In about 50 per cent. there could be traced a history of inflammatory action or pelvic pain. In one case of dementia of ten years standing which recovered subsequent to operation, there was a direct history of gonorrhœal infection ; and, in several others, such infection was very probable. Several gave a history of sepsis following miscarriage. Thirty-nine of these cases were subject to operative measures, with a mental recovery of 17, or 43 per cent. ; mental improvement in 12, or 30 per cent. ; unimproved 9 ; one not heard from. Three deaths followed the operations, one from uræmia, the two others from meningitis—the latter which existed undetected before the operation. The cases that made the most rapid recovery were those of cystic and adherent ovaries and tubes. Next in order in

recovery were fibroid conditions of the uterus with myometritis. But few of the cases which I have examined either complained of, or gave indications of, pelvic trouble sufficient to call the attention of friends, nurses, or physician. A statement was made recently by the superintendent of an eastern hospital that pelvic disease could not be frequent in these cases since they rarely complained. The experience of those who have worked for some time in the gynæcological field is, that the vast majority of the cases that suffer from uterine or ovarian disease are led to consult a physician on account of radiated pain, reflex, or general systemic disturbance. Dr. Fenwick, of London, states that in the woman's hospital only 10 per cent. of the cases under treatment there complained of symptoms directly connected with pelvic organs, the remainder giving histories of troubles which they considered wholly distinct from, and in no way dependent upon the pelvic organs. If this be the case with normal mentality, how much more would we expect the symptoms to be suppressed when not only the body is diseased but the mind clouded.

In the *American Journal of Obstetrics* for June, Dr. Palmer states that but 25 per cent. of insane women have pelvic disease, basing his statement upon "a careful inquiry of the superintendents of insane asylums." That there are superintendents capable of making examinations, I am willing to admit. One provincial hospital is more than fortunate in this respect; but there are parts of our Dominion less fortunate. If Dr. Palmer's informants were not more skilful diagnostitians than some who have been placed in position of responsibility in Canada, it would be folly to expect accuracy in this matter, and accept the statements of such superintendents relative to matters of pelvic diagnosis. Again, a somewhat striking comparison is shown relative to the social condition of our asylum commitments. I mention this by the way, as it has but an indirect bearing upon the subject in hand.

The number of married women committed is double that of single women, and the number of single men, double that of married men.

Since this relation does not exist in the whole population, does it not lend suggestion to the possibility of the abuse of alcohol, sexual abuse and excess, the prevalence of venereal disease among young men, and the strain of childbearing, with its consequent train of contusions, lacerations, and infections, the exhaustion of lactation, and the ravages of gonorrhoea upon the married women, as being factors in the production of psychoses.

The more recent the case the higher is the recovery rate. The duration of the insanity of those whose recovery followed operative treatment was less than one half of that in those whose condition remained slightly improved or unimproved. It is only fair here to state that the recovery rate in well regulated state hospitals where gynaecological treatment is practically nil, is frequently higher than the recovery rate which I can present. This arises from the fact that the hospital has the advantage of the recent cases in which the recovery rate is comparatively very high.

It is not my purpose to endeavor to show, in the cases in which recovery followed the treatment, that the pathological condition removed, was the primary source of the mental disturbance. No doubt it was one ot the many combining causes. In any given case of insanity, the mental condition is the pyschic result of the sum of the physical abnormalities, and the restoration of a small part of the organism to its normal condition may result in the restoration of the balance of power to such organism.

The particular nerves, through which the higher centers are affected by chronic disease of the pelvic organs has been thoroughly outlined by Dr. Byron Robinson, and I can do no better in this connection than to quote him.

"Irritation from diseased pelvic organs goes to the vaso-motor centers of the cord and medulla by two routes. It goes up the ovarian and hypogastric plexus of nerves of the abdominal brain. Then it is recognized and sent up along the pneumogastric to the dominating center in the medulla, when it is reflected all over the body. It can also go up the lateral chain from the coccyx, especially by the way of the hypogastric plexus."

Dr. Robinson found in his dissections, that, "especially the female, the lateral chain of ganglia were strongly and literally connected with the hypogastric plexus by large thick nerves. By carefully studying patients, one can see the immediate and remote effects of pelvic disease. The immediate effect may be observed to be from the localized, tangible, gross pathology. Inflammatory processes may deposit contracting cicatricial tissue which dislocates the genitals, compromising circulation, and traumatizing nerve periphery. It may be pressure troubles, septic trouble, or otherwise. But the remote effect is through the sympathetic nerve, or, rather, through malnutrition. A slight, unnoticed, irritable focus begins in the pelvis (it may be endometritis). Months and years go on. Irritations accumulate in the abdominal brain, and may radiate out on all its various plexuses. Nutrition is insidiously impaired

through the months and years; unbalanced reflexes gather in the abdominal brain, which, in turn, disturb the normal, functional rythm of viscera. Accumulated energies, begotten of long continued pelvic disease, are not controlled by the abdominal brain, but irregular, stormy forces are emitted over the plexuses to the viscera, which unbalance their nutrition. The woman with genital disease becomes an object of wretched despair, and a miserable invalid. The days of her life are passed between pain and sadness. Our amateur operative gynaecologist has forgotten that all her troubles started from a lacerated cervix, or endometritis, five years ago. He is sure to extirpate her ovaries, which should not be done; and lo! how disappointed he is if she does not get well in a month. Such a woman will not get well from extirpation of normal organs. The only benefit of extirpating the ovaries was that she was compelled to lie still for a month—a dear method of purchasing a few weeks' rest. The proper method to follow in this numerous class of women is, to hunt for the old cause, and remove it; and, then, gradually nourish the woman back to the normal. Such women are called hysterical, but there is generally some pelvic pathology, some provocative agent, that precedes hysteria, before the abdominal brain suffers derangement."

Questions of more than passing interest arise out of the consideration of this subject, two of which I shall state and particularly request your opinion upon the points.

(a) Given a case of insanity occurring in a woman of excellent heredity, who has previously complained of abdominal pain or pelvic discomfort with a negative examination under anesthesia, and with every part of the system interrogated without the discovery of any physical disease, is the surgeon then justified in making an exploratory vaginal or abdominal incision?

(b) The second question is: In such a case as previously stated, the abdomen having been opened, or in any case, with or without a vicious heredity, in which the abdomen has been opened for the purposes of removal of diseased parts or other necessary manipulations, is the surgeon justified in rendering the patient sterile?

To each of these questions I answer in the affirmative. The life risk of simple abdominal exploration in the hands of competent surgeons is little more than that of the anesthetic, the pathological conditions that cannot be determined by external examination, and the surprises that all surgeons of experience have encountered justifies this method of examination in the presence of a disease that renders the patient not only physically but mentally incompetent, and may possibly consign her to a fate worse than death itself. As to the latter question, although but

few of the cases that have come under my observation have an ascertainable neurotic or insane family history, we should not be deceived by concluding that such heredity does not exist. We all realize how difficult it is to obtain a complete history of our ordinary every day cases, and especially is this the case if there be an element that might reflect in any way upon the family. I consider that it is in the interest of the State that the production of the defective and degenerative should not be encouraged. With the consent of the husband or friends, I consider the removal of the tubes a justifiable procedure. With the general conception of insanity as the product of heredity and strain, while we may be deficient in our control of the environment, we have in this procedure a definite method of dealing with a possible potential of the future.

In the light of foregoing statements, is it not adding injustice to misfortune when we commit this class of patients to the state hospital without first exhausting our professional resources in an effort for their relief.

There is a large number of women whose personal environment brings an extra burden to life's toil and grief. Society, instead of sharing the load, adds the spurs of fashion and custom. Let disease supervene and the overworked nervous system becomes deranged, peripheral impressions are magnified, reflexes become uncontrollable, and mental aberrations appear. The physician is called in, and too frequently adds to the burden and intensifies the irritation by prescribing brick walls, grated windows, and uniformed keepers.

We must admit that the environment afforded by the best of our hospitals for the insane is not restful to wearied bodies, soothing to jaded nerves, nor tonic to deranged minds. Suppose a case having a personal bearing, who of us would choose such care for a sister, wife, or mother, while there remained the slightest chance of recovery by natural means, or relief by therapeutic measures? Sympathy, honor and professional ambition should impell us to make the most thorough and minute examination of each case submitted to our investigations, before we make the humilitating admission that science cannot locate, nor skill remove the cause of the derangement, and we at last reluctantly give our dictum, that one more unfortunate must be added to the thousands committed to a separation regarded by friends as almost worse than death.

I make no criticisms regarding *your* State hospitals, but I know of a country not far away where the position of Hospital Superintendent is too often the award for party loyalty without any consideration for those of fitness, experience or scientific qualification. It is satisfactory to know that my own province of British Columbia is in this respect an exception.

Realizing the necessity of more thorough work in this department in our Provincial Institution, several years ago I made the suggestion to our Government that a Medical Consulting Staff should be associated with the Medical Superintendent of our Hospital, who could meet once a quarter, and examine all recent committments, to co-operate with the Medical Superintendent and outline a treatment, but this suggestion was not acted upon. After due consideration, I have come to the conclusion that an excellent method of dealing with this subject is the establishment of a Nervous or Psychopathic Hospital or special wards in connection with general hospitals, which would stand as an intermediate station, where those who have developed abnormal psychic conditions to the extent that home treatment is impossible or inadvisable, could receive appropriate treatment until it could be satisfactorily shown that the underlying physical lesions were beyond the probability of early removal either by the natural forces or by medical or surgical measures. Those giving indications of chronicity or undue violence should be removed to the State Institution. As it is at present constituted, the class of cases that would receive the greatest benefit from this arrangement would in the opinion of the writer, judging from his limited experience in the treatment of these unfortunates, be (1) puerperal, toxemic, irritative from pelvic lesions, as cystic inflammation, ovaritis, adhesions, fibroids, retro-displacements, etc., or, in general terms, all those classes of cases in which the expected recovery rate is 75 per cent. Upon the other hand, it would be worse than folly to detain in this psychopathic suspect station, idiocy, senile dementia, or general paralysis.

We are being continually reminded of the alarming increase of insanity, the lack of accommodation, and the fact that a serious problem is confronting us in this direction. The establishing of psychopathic hospitals would to a great extent lessen the congestion, and since experience has shown that recent cases are more amenable to treatment than those in which the measures for relief have been delayed until the abnormal metabolism of the cortical cells has become somewhat of a mental habit, many of these cases could be returned to their homes, that under the present system drift hopelessly to utter dementia and death.

The existence of such an institution would also tend to keep before our minds the fact too often forgotten, that many cases of mental trouble are within the province of the physician, and thereby could greater attempts be made to investigate and relieve the underlying physical lesion. In looking over the report of some of our large State hospitals I find no mention of any attempt to utilize the large amount of material

which is at the disposal of the medical authorities, either in thorough physical examination, or in post-mortem, that at least some light might be thrown upon the underlying pathological condition. Can any other department of medicine show such negligence ? With abundant evidence of the application of the simple principle of surgery to the class of cases, it is criminal to pursue a course of inefficiency and negligence.

Before concluding, I will give a short account of the last cases which have been submitted to operative treatment.

Miss———, aged 27, of excellent heredity—in fact, of an unusually intelligent family—with a personal history of hysterical manifestations, dating from the commencement of menstruation, dysmenorrhoea with an unusual amount of blood loss, was confined to bed for a few days each month. Some five years ago, a gradual change was detected in her disposition during the period previous to menstruation. These periods lengthened, delusions developed, until she was pronounced insane and committed to the provincial hospital, where she remained two years. The insanity was of the sexual type, attributing evil motives to men, and harboring delusions of pregnancy.

Examination showed erosion of the cervical mucous membrane, with the uterus slightly enlarged. I curetted a few fungosities, amputated the cervix, opened the abdomen and resected three-fourths of the right ovary which was cystic. I noticed that the labia majora were hypertrophied and granular in appearance, but not having any history of self abuse I did not interfere.

The after mental condition was a decided improvement, but far from satisfactory. With a fuller personal history my suspicions of self abuse were confirmed, the vice being indulged in nightly.

Six months after the first operation, I removed the labia majora and minora and the mucous membrane of the vestibule to the meatus, including the clitoris ; also resected the pudic nerves—or more particularly the external and internal superficial perineal branches, at the posterior part of the vagina along the outer wall of the ischio-rectal fossa, directly below the pudic artery. This secondary operation was performed but two months ago. The result has been very satisfactory. She has had a period of two weeks sanity, and each month the condition seemed to improve, but recently she grew worse.

In consideration of these matters we are justified in the following conclusions :

(*a*) That pelvic disease in the insane is not infrequent.

(*b*) That in a certain percentage of cases the removal of the physical disease is followed by the restoration of the mental faculties.

(*c*) That the recovery rate is sufficient to encourage us:

1st. In the further investigation of the subject.

2nd. That pelvic disease in the insane should receive operative treatment.

3rd. That a clouded mentality is no excuse for the neglect of a physical abnormality.

4th. That it is advisable that either special detention hospitals or special wards be provided in our general hospitals, where recent cases of insanity may receive appropriate treatment; and that the Lunacy Act be amended so as to allow the commitment of suitable cases for trial treatment in such detention hospitals, to be subsequently removed to the state hospital should such treatment prove insufficient.

5th. The advisability of recommending that a competent gynaecologist be associated with all state hospitals for the insane.

P.S.—Since writing the above I have operated upon three additional cases: (1) Delusions of a mild type with dread of complete mental failure; conditions present, lacerated cervix, retroversion, subnivolution. (2) Delusions, threatened homocide, intermittent intense dislike for child, ovarian cyst, floating kidney. (3) Puerperal insanity, delusional and suicidal, with periods of excitement; curetted pieces of placenta, repaired cervix. All three cases progressing favorably, but too early to report upon.

LARGE DOSES OF HYDROCHLORIC ACID.

In the *Pacific Medical Journal*, May, 1903. Perry discusses a method for giving large doses of hydrochloric acid in cases in which it is deficient. The writer claims that lack of this acid as the cause of many cases of gastric insufficiency, and that the doses ordinarily given are inadequate inasmuch as the body daily forms 12 grammes absolute HCl. The plan advocated is the digestion of beef with strong acid, in which way an organic combination is formed and the acid combination requires for 100 grammes boiled beef, 3.10 grammes of absolute HCl, this in such a state of combination that it reacts, acid with litmus and neutral with dimethylamidoazobenzyl. It has no corrosive action on the teeth and is able on the addition of pepsin to dissolve 65 per cent. of the beef with which it is combined, and an additional 40 per cent. with which it is mixed, still retaining an acid reaction to litmus. To prepare it, take 1 part strong liquid HCl, 50 parts of water, 16 parts of boiled beef ground to a coarse, moist powder, heating a few hours until a paste is formed; prepared in this way it contains about 7 per cent. strong liquid HCl.

THROMBOSIS OF THE FEMORAL VEINS FOLLOWING ASEPTIC LAPAROTOMY.*

E. R. SECORD, M. D., Brantford.

It is my purpose to report the following case, not on account of any peculiarities associated with the diagnosis or treatment, but entirely because of an unexpected and unpleasant complication, occurring after convalescence had become well established.

Mrs. V., aet., 35, consulted me in November, 1902, regarding a double hernia.

The history that she gave indicated that the rupture on the left side had been present for twelve years, during which time she had worn a truss, which had only imperfectly retained the protrusion, especially during heavy work. On the right side the hernia had only been present a few weeks, was gradually becoming larger, and was the seat of considerable pain.

On examination a condition of bilateral oblique inguinal hernia was found, the mass descending easily on both sides during straining efforts, and being as easily returned.

Excepting this condition the patient was in perfect health,—there was no discoverable cardiac, renal or pulmonary lesion, no anaemia, nor were there any varicosities of the superficial veins of the lower extremities. Operation was advised, but owing to extraneous causes was not carried out until the third week of January in the present year.

At that time, Bassini's operation with Macewen's treatment of the sac vas done on both sides under one etherization. The round ligaments were found large, and inseperably blended with the sac wall. They were accordingly dissected from their pubic attachments, and puckered up with the sac.

Contrary to my expectations, the operation on the right side proved much the more dificult, the sac being more adherent to surrounding structures, and a small part being divided off by a septum to form a small hydrocele with insignificant fluid contents. For these reasons there was much more handling of the tissues, and more extravasation of blood on the right side than on the left,—the time occupied being quite twice as long.

The whole operation was carried out under the strictest aseptic technique, including the use of rubber gloves. A flat table was used and there was neither Trendelenburg position, nor flexion of the knees or hips.

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* Read at the Canadian Medical Association, London, August 25th, 26th, 27th, 28th, 1903.

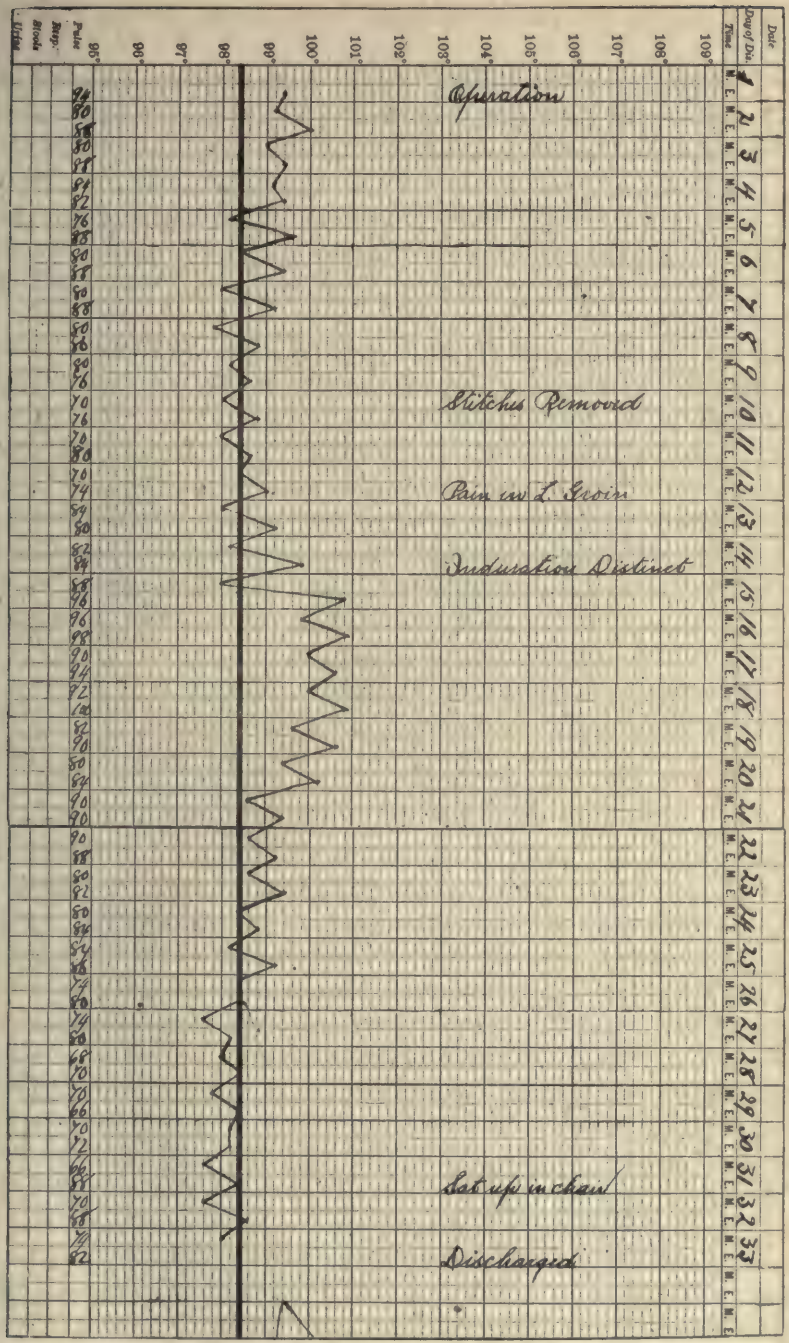
A moderately firm double spica bandage was applied but as this caused some little irritation it was replaced after the first day by a many-tailed bandage simply pinned firmly across the hips, and this, owing to its tendency to slip, was changed for adhesive strips.

Early convalescence was entirely uneventful, the temperature never went above 100 deg. F., nor the pulse above 90. The wounds were not dressed until the tenth day when the stitches were removed, primary union having occurred throughout on both sides in the most satisfactory manner. I may be pardoned for emphasizing the fact that there was absolutely no redness, induration nor tenderness around either of the wounds. On the next day, some slight pain was complained of in the right groin but it disappeared without treatment.

On the twelfth and thirteenth days, considerable sharp shooting pain was complained of in the left groin, popliteal space and calf of leg. On the fourteenth day, a hard, indurated, tender cord could be made out, occupying the position of the upper end of the long saphenous vein. A diagonsis of venous thrombosis was made, the leg elevated, and moist heat applied to assist in the establishment of the collateral circulation. Up to this time, there had been absolutely no fever, on this day, however, the temperature rose to 99⅔ degrees F., and on the next to 101 degrees, at which height it was maintained for nearly a week. The pulse rate was increased in proportion but was not elevated before the temperature, as Singer's[1] investigations would tend to show occurs in phlegmasia alba dolens. The condition ran a more or less benign course, the temperature becoming normal on the twenty-third day, but considerable pain and stiffness in the leg persisted for some weeks longer. During the height of the process there was considerable oedema in Scarpa's triangle but at no time was there any at the ankle.

The condition was then, in short, an extensive venous thrombosis, involving the left saphenous and femoral veins, following two weeks after an aseptic operation, with typically aseptic wound healing. Moreover it occurred on the left side, where the less extensive operation had been done, where there was less handling of the parts and less haemorrhage, but where a truss had been more or less constantly worn for twelve years.

It is not my intention to go into an extensive discussion of the various theories to explain venous thrombosis, which have been advanced from time to time, as for instance by Hunter, Virchow, and Brücke; but, on looking into the literature of the subject, I find that there are a few articles dealing specifically with this special condition, such as those of Schenck[2], Willy Meyer[3], Coe[4], and Van der Veer[5] in English; and


Date
Days of Dis.
Time
Pulse
Resp.
Stools
Urine
Operation
Stitches Removed
Pain in L. Groin
Induration Distinct
Sat up in chair
Discharged

of Lennander[6], of Upsala, Strauch[7], of Moscow, Wyder[8] and Leopold and Mahler[9], in German.

All of these authors consider more or less briefly the question of the special etiology of this condition, aside from the question of the etiology of thrombosis in general.

Infection, mechanical obstruction to the circulation, as by tight bandages, loaded bowels, flexed thighs, etc., Traumatism during operation, as by retracters causing the formation of more or less extensive haematomata, are among the commonest causes on which special stress is laid.

Strauch, after considering his cases, remarks: "It appears therefore that the specific working of the ether plus the high pelvis position has brought about this unpleasant complication."

Lennander believes that the possibility of compression of the respective veins by the dressing, as also the possible coagulation of blood in the veins of the lower extremity as the result of constipation, should be avoided. He further considers that the condition is partly at least due to mechanical obstruction of the circulation, and advices elevation of the foot of the bed after operation, and maintenance so during the whole time of convalescence, as a preventive measure.

The majority of the writers on the subject consider that infection is the most probable cause, although, as Meyer puts it, "the infection need not start from the operative field, but may originate elsewhere, especially in the intestinal tract." Schenck concludes that "the facts that they have not followed pus cases, and that the condition occurs occasionally after operations on the appendix, gall-bladder, or right kidney, cases in short where the site of operation is more or less removed from the site of the thrombosis, are points difficult to explain under the theory of infection." This criticism may be offered of Schenck's conclusion, that the very cases he sites as illustrative of the improbability of infective origin, are themselves often infective. Thus, in both Willy Meyer's appendix cases, more or less acute peritoneal inflammation was present, and Meyer consequently agrees with those who consider infection to be a causative factor of the complication under discussion, and he points out the possibility that a few bacteria coli, or staphylococci may have lain dermant in adhesions, and been stirred into life by the manipulatory efforts connected with the operation.

In speaking on this point, it is interesting to note that at a discussion recently held before the Paris Society of Surgery[10], Mons, Jalaquier, and Mons. Brun both reported three cases of left femoral thrombosis occurring in the course of appendicitis, and connected not

with the operation itself, but with the condition calling for operation, since in two cases the only operative measures used were the evacuation of abscesses. The Editor of the *New York Medical Journal* says[11], in this connection, "left femoral thrombosis may yet come to be regarded as of diagnostic significance in obscure cases in which only the possibility of appendicular inflammation can be affirmed."

In a large percentage, however, of the cases to which I refer, neither wound infection nor inflammatory disturbance in other parts of the body, enters into the subject, since nearly all the wounds follow a typically aseptic course, as in the case reported, and in many at least, there is no evidence of infective conditions elsewhere. In the above case also the fact that the pain and induration caused the diagnosis to be made, before there was any distinct elevation of temperature shows that an infective origin is improbable. The bowels had been well cleared out and were maintained so after the operation, so that distension of the sigmoid with fæcal matter and absorption therefrom is not probable as a cause. Again, the fact that out of Schenck's forty eight cases only four occurred before the tenth day, would seem to cast doubt on any infective nature, since we should expect this to manifest itself earlier.

Moreover, that the elevated temperature is not in itself evidence of an infective origin is pointed out by Meyer in these words: "In the case of a thrombosis, changes in the blood within the thrombosed vessel, as well as in the tissues immediately surrounding it, may have set in and from these areas poisonous albuminoid substances may be absorbed by the system and thus produce rise of temperature and increased action of heart."

In considering Schenck's cases, one is struck as he was, by the large percentage following operations for the removal of tumours, especially since, as he says, these are not the cases in which there is the most traumatism, the most loss of blood, or the greatest chance of infection. Twenty-eight of his cases, or fifty-eight per cent. followed the removal of large tumours, myomata or ovarian cystomata, while in addition five followed radical operation for carcinoma uteri, and one including a hysterectomy for pelvic inflammatory disease, a total of thirty-four cases where it is possible to conceive that there was very distinct alteration in the pressure relations before and after the operation. Of the total this represents seventy-one per cent. Feeling that this change of pressure might have some causative influence in at least a share of the cases, I have so far as possible looked up the reports with the following results:—

Author.	No. of Cases.	Condition.	Side.	Result.
Schenck	4	Perineal Repair	10 righ	Recovery.
	19	Hystero—Myomectomy		"
	9	Ovarian Cystomata	2 bilateral	"
	5	Hysterectomy for Carcinoma	36 left	"
	3	Suspension		"
	4	" with Repair		"
	1	Hysterectomy for Inflammation		"
	3	Miscellaneous		"
Lennander	5	Appendectomy		"
Willy Meyer	2	Appendectomy	Left	"
Strauch	1	Hystero—Myomectomy	"	"
	1	Rt. Ovarian Cyst	"	"
	1	Large Tumour of Left Ovary	"	"
Van der Veer	1	Angioma of Lobus Spigelii	"	"
	1	Large Bilateral Ovarian Tumours	"	"
	1	Large Fibroid Filling Pelvis	"	"
	1	Recurrent Appendicitis	"	"
Coe	1	Perineal operation with removal of both adnexa		"
	1	L. Oophorectomy, Appendectomy		"
	1	Cyst of L. Ovary Appendectomy		"
	1	Left Dermoid Filling Abdomen		"
	1	Cysts of Ovaries		"
	1	Operation for Inversio Uteri		"
	1	Trachellorrhaphy		"

69 cases, divided as follows :—

Appendectomy—eight ; perineal—five ; for the removal of abdominal tumours, whether benign, malignant or inflammatory, there were forty-four or sixty-four per cent.

The reports of Wyder and of Mahler and Leopold were also consulted, but they are concerned rather with the occurrence of post operative pulmonary embolism, arising from erural and pelvic thromboses, most frequently the latter.

In this connection, I must recall the fact that, in the above reported case, a truss had been worn for many years, and was only permanently removed at the time of the operation. Again the bandages owing to some degree of restlessness on the part of the patient were only lightly held in place and exercised no pressure over the wound. Adding then this case to the above there are seventy cases, forty-five of which or sixty-five per cent. followed conditions of decreased pressure.

If however we subtract from these seventy cases those in which, as for instance the appendix case, there was undoubted infection in other parts of the body, we have left sixty-two cases of which forty-five or seventy-three per cent. were dependant on operations which brought about conditions of lessened local tension.

All of the writers on this subject have emphasized the late occurrence of this complication. Of Schenck's cases, twenty-five occurred between the twelfth and the sixteenth day, and this perhaps may be taken as the average period.

Mahler and Leopold, in their article, call attention to the fact that when a large neoplasm is removed the intra-abdominal pressure sinks and the pelvic veins become dilated. This condition cannot but predispose to the formation of thrombi in these veins since all the surroundings are favorable, injured vessel walls from trauma, and slowed current from the dilatation. Hence we may suppose that thrombi form, and gradually spread from smaller to larger vessels, until either the internal or the external iliac vein is involved. It would ot course take some considerable time for this condition of slowly spreading thrombosis to reach the larger vessels, hence the usual late occurrence of the complication.

Another hypothesis which might be advanced would be that the decreased pressure allowed the exudation of large amounts of serum and blood into the tissues, which former coagulated and finally became organized thus producing a secondary or late pressure on the veins.

Regarding the treatment of this state when it arises, nothing new can be offered. Elevation of the limb, and moist heat to favour the formation of the necessary collateral circulation seem best to meet the indications. Lennander's suggestion as to prophylaxis by elevation of the foot of the bed would seem difficult to carry out. Moreover it would assuredly make nine hundred and ninety-nine patients uncomfortable in order that one might have a little better chance of escaping this complication. Again, Van Buren Knott[12] reports 326 cases of Laparotomy treated post-operatively by elevation of the head of the bed (Fowler's position) without any increased tendency to phlebitis. If

however the above quoted facts are of any value, and if deductions can be safely drawn therefrom, it would seem advisable to support the abdomen rather more definitely than is usually done, especially after the removal of large tumours. After hernia operations it would appear to be well to exercise a certain degree of direct pressure over the wound area, probably most comfortable carried out by a well applied spica of crinoline.

From a consideration of the above statements it is probable that the following conclusions may be safely drawn :—

(1.) No one etiological factor is alone responsible for the occurrence of this complication.

(2.) The role of infection in otherwise non-infective cases, does not appear to be an important one.

(3.) Conditions of sudden decrease of pressure dependant on the operation, probably have a causative influence.

(4.) Treatment should be prophylactic, as by avoidance of unnecessity traumatism, of haemorrhage, or of suddenly decreased tension, as by having the wound area well supported by firmly applied dressings.

(5.) So far as I am aware there has been no mortality in the reported cases, but the occurrence of pulmonary embolism in a certain proportion warns us that this termination is not an impossible one.

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DISCUSSION ON TUBERCULAR PERITONITIS. *

By A. B. ATHERTON, M.D., LL.D., Fredericton, N.B.

WHEN invited to take part in a discussion on tubercular peritonitis at this meeting of our association, I took it for granted that the intention was that each one who participated in it should base his remarks mainly on his own personal experience, and, with such a view, I have undertaken my task.

I have seen, I believe, thirteen cases of the disease. Twelve of the number occurred in females, two of these being mulattoes, which is a larger portion than would be expected from the proportion of the negroes to the rest of the population. The ages of twelve, ranged from twenty-two to forty years. One was a female of twelve. Three were treated medically, with one death. I saw her once in consultation only a few days before she died. The other two recovered, one under tonics and the application of a large abdominal plaster of extract of belladonna and iodine, the other under the use of iodoform ointment externally and the administration of this drug internally. The latter treatment seemed to act well in the case of this child, but I have not found it so satisfactory in that of an adult, in which I tried it. Dr. Burney Yeo, of London, was, I believe, the first to recommend this treatment, and he speaks very encouragingly of it.

In one case, where the woman had been ailing for nine months, and had been told she had an ovarian tumor, I tapped with a medium-sized trocar, and drew off 160 oz. of serous fluid. This was followed by a marked improvement in her general condition, but the ascites soon appeared again. I repeated the tapping in about four months, removing 130 oz. After that some fluid accumulated once more, though to a less extent. In a few weeks it all disappeared, and in six months from the date of the first operation she was perfectly well and her weight had increased 40 lbs.

The remaining nine cases were subjected to an abdominal section. Three of them died from seven weeks to five months after the operation. In one of the fatal cases a foul abscess was found at the time of the operation, subsequently communicating with the rectum. In another, a bad cough developed and she could retain no nourishment, wasting away to a skeleton before she died. The wound had healed kindly and well. In the third, the patient had run down very much before operation, having been ill nine months. The uterus, tubes, and ovaries were badly diseased, and I removed the last two. She did not seem in a condition

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to stand a hysterectomy, even if I had thought it better to do it. She quickly recovered from the operation, and was able to leave for her home, in the country, before the end of the fourth week. I never saw her afterwards, but learned from the husband that about six weeks after getting home an abscess burst through the abdominal scar and the discharge continued until her death, five months after operation.

The only male I operated on was very much emaciated when sent to me, and had an uncontrollable diarrhoea for weeks. After operation, all his symptoms improved and, for two years, he worked at his trade as a carpenter. Then his lungs became affected and he died in five or six months from the time the pulmonary symptoms developed.

In reviewing my cases, I find scarcely any one symptom present in every instance. Among the most constant were: (1) Abdominal pain and soreness. (2) Enlargement, either from serous fluid or pus, or from distended coils of bowel. (3) Pain in micturition. (4) In females, more or less immobility of the uterus, with indurated, tender swellings in its immediate neighborhood, and closely connected with it. (5) As a rule, more or less loss of flesh. (6) Not infrequently, a period of impaired health preceded the abdominal symptoms.

In about forty per cent of my cases a family history of tuberculosis was obtained. Two of them had always had rather delicate health. In three there had been pleurisy, either accompanying the peritonitis or preceding it. In two, there was a chronic cough. Nausea and vomiting was a somewhat prominent symptom in a few. One clearly dated her abdominal trouble from a fall upon the sidewalk, which severly hurt her side. In another, an acute attack of pain and vomiting, coming on in the night, a few hours after eating freely ot apples, ushered in the disease, the symptoms following immediately without her ever getting up from her bed and going about again until operated on. I saw her in consultation three months after the onset of her illness, being brought on a bed forty miles to the hospital for operation. She recovered speedily and remains well after more than seven years. In her case there was a dry adhesive inflammation, and I merely separated a few adherent coils of bowels. Some hold the opinion that these cases of dry adhesive peritonitis are unfavorable ones for operation, but none of mine made a more rapid or better recovery.

In the ascitic form one is apt to mistake tubercular peritonitis for an ovarian cyst. I witnessed a distinguished London surgeon make the opposite error a few months ago. He had diagnosed the case as one of tubercular disease, but it turned out to be a cystic tumor.

Generally speaking, the pain and tenderness of the abdomen, coupled with a somewhat fixed uterus and tender masses in its neighborhood, would serve to distinguish a case of peritonitis. Also, I have found that usually one could get more or less change in the position of dulness by varying the decubitus of the patient, although sometimes we have to wait a litte while for the fluid to settle to the lowest point, probably because of the adhesions present. If the fluid is encapsuled, then of course this symptom will not be obtained.

The larger caseating tubercular masses, sometimes met with, are liable to be mistaken for malignant growths, and, in some cases, we can only clear up the diagnosis by an exploratory incision. In one of my cases, in which a hardish swelling was found in the right hypogastric region, and apparently so closely connected with the fundus uteri as to seem an enlargement of that organ, I was much in doubt as to the character of the disease, especially as two sisters had died from cancer before forty years of age, in one of whom the uterus was affected, while in the other the breast. Her father also was just about dying from cancer of the rectum. Operation showed it, however, to be one of tubercular peritonitis. The uterus, ovaries, and bowels were covered completely over by a false membrane, about two quarts of serum lying between it and the parietal peritonium in front. The patient has much improved since the operation three months ago. The swelling about or in the fundus uteri is all gone. It could be readily felt extending half way up to the naval before operation, but it is not at all recognisable now. The general abdominal enlargement is also entirely gone, and the pain and soreness have about all left. In this case there were unmistakeable signs of intestinal obstruction, both previous to operation and to a slighter degree after it. This was the only one in which I observed obstructive symptom. Severe paroxysmal attacks of pain would come on now and again in the epigastric region with some vomiting and the appearance of distended coils of bowel. After a few hours they would subside.

As regards the temperature, in chronic cases it may be normal or at times below. As a rule, however, there is a rise of a degree or two every evening. In the more acute cases it is always above the normal.

When we come to consider the *treatment* of tubercular peritonitis we find, as one might expect, that the tendency of the physician is to lay stress on the value of medicinal measures used for a somewhat lengthened period, while the surgeon is inclined to resort more early to operative procedures. I think for a few weeks, or even months in the more chronic cases, we should ordinarily give medicinal treatment a

trial. This should include all the usual means, medicinal and others, to build up the general system, together with the administration of creosote and cod liver oil. The oil, however, has not been often well borne by my patients, as their stomachs were upset by it. If the condition of the sufferer admits of the delay, one might also give the iodoform treatment a trial. After an abdominal section has been done in these cases, I think it is advisable to carry out a similar line or lines of treatment, as a large proportion of them are slow in returning to a condition of full health and strength.

One exception should be made to any postponement of abdominal section, and that is where the Fallopian tubes or appendix caeci are primarily affected. One of my patients, whose father had died of phthisis, was out-of-sorts for a few weeks and then began to complain of pain and soreness in the left hypogastric region. Ten days afterwards I was consulted, and felt a tender mass on the left of the uterus. I advised operation, and removed a much thickened tube and a cystic ovary. The tube was as thick as the thumb, and its walls infiltrated with purulent matter, the lumen being almost obliterated. In separating it from adhesions it was so friable that with but little force it was torn away at the uterine corner. The right tube and ovary were healthy, and there was no general infection of the peritoneum. She made a quick and full recovery, remaining well at the present time, about four years since the operation.

In those cases where there is a large collection of ascitic fluid, I would try tapping with an ordinary trocar before resorting to the more formidable abdominal section, as I did in the case previously alluded to. I fancy that the removal of the liquid by means of the trocar would be more effectual than the use of the aspirating needle for this purpose, as it would set up more disturbance of the peritoneal cavity, acting more like an abdominal section in causing a hyperaemia of the membrane and a consequent change in, and absorption of, the tubercles. Such is, it seems to me, the most reasonable explanation of the way in which a section leads to a cure of the disease, rather than the more hypothetical one that the exposure of the peritoneum to sunlight or air is the cause of the improvement produced by operation.

In any case it is unfair to the surgeon to allow the patient to reach the last stage of the ailment before he is called to operate. Even in the most desperate case, however, it is probably only proper that the slim chance of benefit to be got from abdominal section should be afforded, seeing that recovery has sometimes followed under such an unpromising condition of things.

I have myself generally washed out the peritoneal cavity with a weak solution of bichloride of mercury, but judging from the reports of other surgeons, it seems doubtful whether the use of this or any other solution is necessary. I have never used a drain except in the foul-smelling pus case. If used in any other, I should fear that it might lead to tubercular infection of its track. As to removal of the Fallopian tubes or uterus, I think where the peritoneum is also seriously involved it is better not to disturb them.

When the disease appears in the form of hard masses in the abdominal cavity, or the bowel walls are seriously affected, it is perhaps advisable to dust in some iodoform before closing the wound.

Judging from my own experience, abdominal section is followed nearly always by a temporary improvement, even though the patient afterwards suffers a relapse.

THE COUNTRY DOCTOR.*

By JAMES S. SPRAGUE, M.D., Stirling, Ont.

THERE is no composition in music which so pleasurably affects the soul of man as that termed a medley, provided such includes selections, although not classical according to modern ideas, that we heard in earlier days, those dear old melodies, such as our mothers were accustomed to sing and our fathers deligted to hear. The memory of the good old times is awakened thereby. The present moments freed from despondency, less dismal do they appear, and the future is made fair and bright ; and projects of " pith and moment " seem to have no barriers towards being consummated or hopes, and future achievements, to lose their brilliant coloring.

Brief sketches in medical literature or other writings serve equally to give us a pleasurable and instructive hour when relaxation is sought, often demanded by us, who have bared our breasts and kissed the rod in the endeavor to show to our patients conclusively and clearly, that " Death is a stupid blunder merely, and not a necessity of our lives." With these metaphors or similitudes as introductory, it would appear as desirable that for our title, Medical Medley, were better, for there are those who prefer that we designate or distinguish ourselves not as Doctors, but Physicians, Clinicians, Practitioners, Practicians, Therapeutists and other highly elaborated names, which philologic research does not in every particular claim or clearly sanction. Therefore, " The Country Doctor " as our headlight for this paper will remain, and our authority for its adoption is, that the title of Doctor of Medicine was first given in 1324 by the University of Astic in Italy.

*Read at the Canadian Medical Association, August, 1903.

It is admitted that he who selects to write these chronicles, these "segments from the swhirl of Time and Tide," should be one of those whose aspirations, virtues and impulses, he has studied many years. The same ambitions that possess the soul of the recent graduate, are such as we held in early days.

They have not, however well planned, been realized in many instances, the prizes have been few, the blanks have been too numerous, illustrating too forcibly that "our wills and fates do so contrary run that our devices still are overthrown, our thoughts are ours, their end none of our own."

The Country Doctor is he whose early life was that of the country or village; as a rule, he is the best gift of a highly honored and selfrespecting family of sturdy yeomen, especially chosen to give honor to his name and family, and to be the equal in merit and nobility of the family Doctor who lives in a nearby village. Such are the incentives which arouse the young man. An experience of a few years as a public school teacher enables him to be self-reliant and to develop personality. (really an Egotism). Such preparatory work is rivalled only by attendance during a few years, or better still, the full course of years required for the degree of Bachelor in Arts or in science, self reliant, methodical, really sober in judgment, self-respectful and studious, fearless and tireless is he; he should be set apart for medicine is the opinion of the family Doctor, and the die is cast.

The "pale, sickly and pious" brother is evidently called to serve the Lord. Both bend their necks to the yokes as easily as they contracted croup in early life.

This introduction of the future spiritual adviser or "leader of faithful souls and guide of those who travel to the skies," is employed to serve as an illustration of the life work of these brothers, whose lives are directly associated with the people, whose lives in consequence of this co-mingling or association are recognized as chief factors in the advancement and maintenance of sanitation and morality. The future clerical personage has been presented as pale, sickly and pious, such an assertion is not applicable or desired, although, too commonly believed as worthy of this definition.

No profession calls for greater vigor or moral worth than they should possess who are to assist the Country Doctor; co-workers in many enterprises, in fact for the wrongs that need resistance or causes that need assistance, the highly educated clergy. The poorly educated among such men, and such are too numerous, are the enemies of progress, *in fact*, our enemies. Someone has said, "such minds have no liv-

ing message for any one, they are merely speaking tubes through which the past comes downs to us, God help those who have to rely on what they have to give."

This world with its sunshine and flowers, God's word in the stars; the progressive development of man's goodness, abundant evidences of increasing philanthrophy and practical benevolence are too seldom announced from the pulpit. Too much of his eloquence is employed to preserve moss covered creeds, and dogmas, apparently too full of crudities and cruelities. Shorn of such tendencies, this "*vir pietate gravis*," this co-worker of ours would help more noticeably in the progress of civilization, and more and more would our professions conduce to each other's interests, not only to our interests, but to those of the dear people whose servants we are.

Should not such a friendship and mutual and uplifting interest exist between us as held by Nisus and Euryalus, or Pylades and Orestes? If so, saying where three medical men are assembled, two of them are atheists would be untenable, or uncapable of proof.

The preparation for the long sought for degree of Doctor in medicine having been fulfilled, our young Doctor thoroughly disciplined thereby, advances to the foot-lights, the whole profession in some respects, and those in his field of labor, act as the audience, his destiny is to see that "Life's a varied light illusion, joy and sunshine, light and shadow," and that no illiberal thought or motive should characterize his doings, he learns and has been taught it, at least, if he has been properly taught that.

Catholicity reigns supreme in medicine, that whatever is administered as best is best, our only limitations in regard to Therapeusis being the sun, the air, the earth and its fulness thereof. Such is the liberality of our profession, while upholding, yes venerating the honored teachings of Hippocrates, Celsus, Galen, Eristratus, Heraphilus, Heraclides-not unmindful of the labors of Boerhaave, Cullen and others, not less illustrious, whose services are memorable, our young Doctor, contrasted with his brother, the clergyman, is free to accept or reject such teachings and yet be termed regular in practice, he learns and is learning constantly that his mission on earth is a struggle, an unceasing progressive struggle, to find truths, medical truths, and to live by them. It is his to have the "keen spirit which seizes the prompt occasion, makes the thought start with instant action, and at once plans and performs, resolves and executes." To him his profession is and ever will prove a philosophy, which never has rested and never can rest, it knows no other law than that of progress. He learns too frequently, that a point which but yesterday was invisible, is its goal to-day and will be its starting point to-morrow.

History reminds us that new worlds have arisen and that we have lost old nations, equally can the same changes be adduced in respect to the numerous theories and schools of the past ages and the introduction of new ideas, but he who "beholds the bright countenance of truth in the quiet and still air of delightful studies," and finds encouragement in the thought that some loved theory may be either abandoned or be recast, or modified, can and will ever be able to keep a warm heart in and for his profession and otherwise escape that condition which may justly be termed mental fossilization, a condition too frequently observed and antagonistic to the spirit of the age.

I now introduce the Country Doctor, who, possessed of such nobility of soul, such glowing aspirations, would be able, in other and more or less honored fields of labor, to advance himself to the highest and most useful point obtainable, but such is not his destiny; his work is and will be such as requires much honor apart from professional services; no more useful citizen or benefactor, or confidential adviser could be named. I speak as one who has full authority to make these statements, as one who for more than three decades has been very closely associated with such men, not only with men in this, my native province, but in early professional life with colleagues, Country Doctors in a far distant state. Those days were days not only of perils but of discomforts, and disadvantages, our faithful and tireless bronchos conveyed us and our saddle bags to widely scattered homes:—

"I scarce can think those days are gone,
And yet like dreams they are no more."

Those were the times in which we respected our seniors, who taught us much, not only in practice but in Ethics, fraternal relationships then were stronger, and we well knew if consultations were necessary that our consultant would not try to rob us of our patients. To-day the consultant has to be carefully watched in too many instances, and the newly fledged doctor too frequently is ignorant of professional honor for his elders.

It is an admitted conviction, that in our staunch adherence to a code of moral law, and in the general and intelligent honesty of our members, we, although subjected to every form of temptation, many, great and constant, can find few illustrations of violation of our code or principles of Ethics, or of honor. No other occupation among men offers more abundant material for development of all that is best, that is useful and that is noblest.

When it is considered that no teachings during the collegiate life are given on the subject of medical Ethics, it is evident that a high grade of morals has either been inherited or has been acquired in practice by the average doctor. Although our profession is in keeping of

able men, yet, many dangers exist and are appearing which threaten our best interests. While the expenses of living and the demands for our offices have greatly increased, have we arranged our fee Tariffs to such changes? Are we not capable of being aroused to recognize that we are becoming more and more enslaved by several widely known Pharmacal Companies? Are we not able to note that our Medical Journals, fortunately not all of them, are greater friends to such companies than they are to us? Is it not time that our Provincial or State Medical Boards—name such Journals, whose columns and advertising pages have the almanac characters? While these so-called Pharmacal Companies are announcing their so-called Ethical goods to us too frequently, is the poor and struggling doctor called to pay out his hard earned money for these, and learns, probably, too late that if he had studied his Materia Medica and other works on medicine relative to this subject in preference to price lists of such companies, he would have served his patients far better.

The evidences furnished that old medicines are not totally abandoned, but becoming more studied and used, are many and encouraging. Should not we possess qualifications in Materia Medica equal to, if not superior, to those demanded of Pharmacists? If so, is such the case? Would it not be advisable that we adhere strictly to the employment of such medicine and their compounds as are named in our standard works on medicine, and not encourage preparations, praised by the Pharmacal Co. and a few well paid officials, connected with Medical Journals? We should prepare our own tablets and compounds, if not, our local druggist can do such work, and by so doing the interests of each other would be the better conserved.

Opportunitiest for the study of qualifications of medical students in their primary work are being afforded me in the position of examiner in Materia Medica and Pharmacology for our College of Physicians and Surgeons.

These reflections, or shall I mean them suggestions, are introduced for our best consideration, heart to heart talks such as I so humbly present, are what we of the country and of the walled city so earnestly need. Although each life is an existence viewing itself too much through a single medium, it is well for us to observe that medicine is a very jealous mistress, and the most difficult of all arts to acquire, and at such annual gatherings of this association, is it not but right to make confession by naming our sins of omission and commission; to view the past, consider our present interests, and to make attempts to look into the glorious future? For Cicero says that questions of any importance have the past, the present and the future to consider, (*tria esse omnino genera quas disceptationem cadera possint quid fiat factum futurum vesit.)*

wrist. On July 22nd, two months later, and eight months since the accident, the bone had refused to unite. Without being discouraged, but afraid of trying the wire again, (which in my experience, cuts through bone nearly as well as a saw), it was decided to attempt union with a silver plate made especially for the occasion. (It is rectangular in shape, two inches in length; and one wide, slightly curved in its width to fit the shaft of bone, and with an oblong piece taken out of the centre to allow room for the callus and so prevent the plate from being pushed aside and the screws loosened.

At each corner is a hole for a screw, which is long enough to penetrate to the opposite wall of the medullary canal to insure a safe grip. Four other small holes are made, two on either side for silver wire which is passed around each fragment, about one-half inch from each end and twisted to further bind the plate in position). On July 30th, with an incision five inches long and keeping away from the nerve, which was not seen during this second operation, the ends of the bones were laid bear, the silver wire removed and the silver plate fixed in position. Open treatment of the wound was adopted by gauze packing, and the whole of the arm from shoulder to wrist again enclosed in plaster.

The wound granulated rapidly. On September 10th, not quite six weeks, firm bony union had taken place and the patient was able to move the arm in any direction. One screw worked its way out in three weeks and another in five weeks. An x-ray photo at this time showed the plate in position with its wire fastening, and shot could be seen scattered in various directions through the tissues. On September 10th, (six months and four days after the nerve suture), movements first appeared in the fingers, and five days later the wrist could be partially extended, though abduction and extension of the thumb were impossible. Three weeks later, all the movements were nearly complete, until, as can be seen, the patient can perform any and all, even the intricate movements, such as writing and the like, which he had previously been accustomed to perform.

On December 12th, (eight and one half months after the first operation, the silver plate was removed and the wound healed quickly.

Two cases of musculo-spiral paralysis have come under my notice recently, the result of fracture of the humerus.

In looking over the literature of nerve suture, the field is remarkably limited in those cases where bone has been resected. Mann, *Lancet*, 1893 (page 59) speaks of such a case, and also Wheeler, 1894, page 939. There are doubtless many more. Primary suture of nerves is far more successful than secondary. Howell and Huber of eighty-four cases had

forty-two successful ones. Willard in secondary cases out of one hundred and thirty, only eighty per cent. were more or less improved. But Petersens' table shews twelve secondary and of these only eight showed signs of improvement with no case completely recovering. The ordinary method of precedure is to remove the bulbous ends of the divided nerve and sufficient stretching to bring them together. This however is fraught with danger from the tension and subsequent separation of the nerve.

Many plans are tried when the ends are too widely separated Among others are a nerve graft from a chicken or rabbit, or from some limb amputated in an adjoining theatre; the use of strings of cat-gut to fill up the space; pieces of tendon or fascia in the vicinity or even spliting the nerve itself to join the peripheral end. Of ten cases collected three only were successful, six partially so, and one a total failure. The literature is full of unsuccessful cases treated by one or the other of the preceding methods. It is advised by some to render the parts bloodless but it seems much better to forego this plan for one can then see the oozing of blood from the nerve ends and be assured of their requisite power of union. Taking results of secondary nerve suture perhaps not more than 30 per cent. are partially successful and when one considers the enormous disadvantage paralysis of the musculo-spiral is to a patient for the rest of his life, every means should be tried to get union early without tension.

Time seems to be a potent factor in nerve suture, the longer the period the less successful the result to be anticipated, yet a year and more are not to be considered a bar to operation. The average time for sensation to return seems to be about six weeks and motion nine or ten months. There is scarcely any doubt that the success of this case depended upon the following: (1) Enough bone was resected so that the freshly cut and bleeding nerve ends were accurately brought together without tension. (2) Two sutures through and through the nerve substance rather than the sheath, ensured opposition. (3) The tissue which separated the fracture from the nerve preventing involvement in callus.

Since the musculo-spiral is a most important nerve, its paralysis leaves the arm for all practical purposes perfectly useless and even when the bone is intact the condition is but little better. Therefore it seems like folly to attempt experiments in such cases, experiments of grafting and the like. And why? because the graft dies. A fresh section of spinal cord, of sciatic of rabbit, or chicken, or amputated limb becomes but as a piece of fascia as far as any nerve elements are concerned. Where

tumors are present or in extensive laceration of an important nerve, with the ends widely separated such might well be repaired by resection of bone in suitable cases. The argument will be, no doubt raised that one is deliberately adding a compound fracture to an already serious condition. With all due respect, it seems to me, (other conditions being favorable) that the surgeon should not hesitate to do so in these advanced days of aseptic surgery.

AN UNUSUAL CASE OF EMPYEMA OF THE MAXILLARY ANTRUM.*

BY PERRY G. GOLDSMITH, M.D., C.M. Belleville.

Oculist and Aurist Ontario Institute for Deaf and Dumb, Laryngologist National Sanitarium Association, Fellow British Laryngological Rhiniological and Otological Association.

MRS. T. age 35, family history unimportant, consulted me 2½ years ago for right nasal obstruction with nasal and post-nasal discharge. There was a history of a gradual failure of health for some years, accompanied by so much muco-purulent expectoration that she was supposed to be suffering from consumption, though no definit lesion had been found. Pus was noticed coming from the middle meatus of the right nostril, in which situation were also found many small granulations and polypi. Transillumination showed a somewhat dull light beneath each eye, but very much more marked on the right side. An exploratory puncture through the inferior nasal meatus showed foul pus in the right antrum. The middle meatal region was then cleared of granulations and polypi. As the patient lived some thirty miles from my office and was unable to remain in town but a few days, alveolar drainage was decided upon which necessitated sacrificing a healthy tooth. Lavage of the cavity was preformed by the patient daily for two weeks, using an indifferent antiseptic fluid resulting in a permanent cure of her nasal trouble with marked benefit to the post-nasal discharge. I might also add that for several years before I saw her she had been having polypi removed, but as the antral mischief was untouched they readily recurred.

I did not again see the patient until about nine months ago, when following an attack of what she called grippe, associated with severe facial neuralgia, considerable purulent discharge was noticed in her left (that is opposite) nostril. The purulent expectoration very rapidly increased. I diagnosed a purulent sinusitis in this side, probably an acute exacerbation of a chronic and comparatively quiet case. When I first

*Read at the Ontario Medical Association, June, 1903.

saw this patient, there was nothing to make me think a purulent focus existed in her left antrum, nor were there any evidences now on rhinoscopic examination other than the purulent discharge to lead me to suspect antral disease. The middle meatal region could not be thoroughly inspected, owing to a deviation of the septum. Transillumination, however, showed a marked difference in the two sides, the left now being the dark one while exploratory puncture through the nose allowed foul pus to be washed out.

My patient having cured her other side so easily wished to treat this one by alveolar lavage also. The third molar, normal in every respect, was removed and after considerable difficulty, owing to the thickness of the bone, communication was gained with the antrum. A spiral wire drainage tube with a small shoulder was inserted and the patient returned to her home. Her trouble, however, instead of being about over had really only begun. All went well for a few days, when her husband undertook to irrigate the antrum for her. He succeeded in pushing the drainage tube, the shoulder of which came off, into the antrum. On learning how matters stood I advised her to return immediately so that I might remove it. She did not come however until five weeks later. Since the tube passed into the antrum the discharge had very materially increased, though she was irrigating the cavity through the alveolus, the opening of which was now quite small. It was perfectly clear that the metal tube was and always would be an irritant and should be removed. A small plate of bone was therefore removed from the canine fossa, permitting thorough exploration of the antrum. The haemorrage was very free but was controlled by gauze packing and adrenalin. I expected to find the tube quite easily but after searching the cavity very thoroughly I could not find it and was at loss to know were it had gone. A very rare condition of the antral cavity was found, viz., a large polypus attached to the inner wall. This was removed but unfortunately lost so that I cannot say as to its exact structure. There was an opening in the posterior wall of the antrum a quarter of an inch in diameter and another in the external wall somewhat smaller in size. On passing a cotton tipped probe into either of these openings blood and pus would be forced into the naso-pharynx, showing clearly the sinus communicated with the zygomatic fossa and from there into the naso-pharynx. A probe passed into the opening of the proterior wall could be felt by post-nasal palpation. It then occurred to me that the tube had probably passed backwards, but where it was I could not determine. The mucous membrane having been thoroughly curetted, a gauze packing was passed into both sinuses and antrum, the external wound being left open. A

counter opening, as usually made into the nose from which the cavity is dressed, was not made because actual inspection was necessary to pack the sinuses.

Three days after the operation the patient brought me the tube, it having passed back into her throat. On one subsequent occasion I packed the sinus and antrum rather lightly, owing to the tight packing being painful. Eight hours afterwards, she came to my office saying there was something in her throat and on looking into her mouth, the gauze strip was hanging behind the palate and the entire piece was removed through the naso-pharynx and mouth. On passing the tip of an irrigating tube into the opening of the external antral wall all the fluid would return through the opposite nostril. The nasal and post-nasal discharge rapidly practically ceased as well as the constant expectoration of muco-purulent matter. The patient said she felt much better in every way, having lost a dull heavy feeling that had for years existed in her head. It was essential in this case to keep the opening in the canine fossa patent so that a dental plate with the tube was attached to a tooth. Daily irrigation was carried out by the patient for three months and as all discharge had stopped, it was removed.

At a recent meeting of the British Laryngological, Rhinological and Otological Association, Dr. McIntyre, the president showed a case in which the tube had passed into the antrum, and remarked that had a gold tube with a well beaten flange been used the accident would not have occurred.

THE TREATMENT OF INEBRIATES.*

By A. M. ROSEBRUGH, M.D., Toronto.
Secretary Prisoners' Aid Association of Canada.

AT the meeting of the Canadian Medical Association in 1898, a paper was read "On the Treatment of Inebriates." In this paper a plan was outlined for the economic treatment of indigent inebriates without the establishment of public inebriate hospitals. The question was referred to a special committee and this committee at the meeting in 1899 reported in favor of the plan proposed. The scheme was subsequently submitted to the Premier and Provincial Secretary of Ontario, and, at their request, a bill was drafted in which the various features of the plan proposed, were incorporated. The bill was drafted conjointly by a committee of the Public Health Committee of the Ontario Medical Association and a committee of the Prisoners' Aid Association of Canada. It

*Read at the London meeting of the Canadian Medical Association, August, 1903.

was submitted to the Premier during the session of 1901, but from whatever cause, the bill has not as yet been brought before the Legislature, although, so far as known, no objections have been taken to any feature of the proposed bill. The members of the Government freely admit the great need of scientific treatment being afforded to indigent inebriates, and that the present method of sending inebriates to jail is neither deterrent nor reformatory, but nevertheless they unfortunately allow the matter to be deferred from year to year.

As the title of the proposed bill indicates, it is "An Act to Promote the Treatment of Pauper Inebriates by Municipalities, Benevolent Societies and Individuals." The principal features of the bill are as follows:

1. Placing all cases of drunkenness, except the confirmed jail "rounder," experimentally on probation or suspended sentence, and under the supervision of a probation officer. 2. Imposing a fine and permitting the fine to be paid by instalments to the probation officer. 3. In cases in which the inebriety has become a disease, the probation officer given authority to place the dipsomaniac for a few weeks' treatment in a cottage hospital, or in an inebriate department in a general hospital. 4. The cost of treatment to be considered as a loan, to be repaid after treatment and while still on probation. 5. Cases of able-bodied inebriates, not reformed or not reformable by these simple and inexpensive methods, to be sentenced to prison on cumulative sentences. 6. Old and feeble confirmed inebriates to be provided for in county or city poorhouses. 7. A special per capita Government grant made to hospitals to promote the treatment of dipsomaniacs. 8. A medical officer appointed by Government to organize inebriate wards in general hospitals, and special cottage hospitals for the treatment of dipsomaniacs in Ontario where such hospitals are necessary, to provide for and supervise the medical treatment in said hospitals, and also to provide for home medical treatment for probationers in proper cases. 9. Three physicians of standing in the Province to be appointed as a committee of consultation to co-operate (without salary) with the medical officer.

Many years ago the Ontario Government inaugurated a very wise policy with respect to the destitute poor of the Province. For the purpose of promoting the humane care of these unfortunates, a substantial bonus is given to each county in which a house of refuge is established. We desire the same principle introduced for the purpose of promoting the treatment of indigent inebriates. The Government is not asked to establish a provincial institution with the large expense involved in construction and maintenance; neither is the Government asked to defray the principal expense involved in the practical working of the bill. The

Government is simply asked to take such action as will stimulate municipalities and the benevolent public to undertake the treatment of the unfortunate class for whose benefit the bill is designed.

The bill, as drafted, has been endorsed by the Ontario Medical Association, the Toronto Medical Society and a number of other public bodies. It has also been endorsed by the medical press, including the quarterly Journal of inebriety. In the October number for 1902 of the latter Journal, the editor speaks of this bill as follows: "We are confident that this bill wi l lead all the world as a new economic movement to diminish the misery and crime which associate and follow alcoholic drinking . . . its success is simply a question of the men to carry out its provisions."

At the meeting of the Ontario Medical Association held in June last a representative committee was appointed to co-operate with other public bodies in promoting the adoption of this bill.

As the underlying principle of this bill has been endorsed by the Canadian Medical Association we trust the members may be able to see their way clear to aid the movement by taking action similar to that of the Ontario Medical Association, viz., by appointing a representative committee for co-operation. Furthermore, we respectfully request that every member of the medical profession, who is in a position so to do will kindly give the undertaking a helpng hand.

DR. CONNELL MADE DEAN OF QUEEN'S MEDICAL FACULTY.

The trustee's of Queen's University met October 16th and appointed Dr. J. C. Connell, M.A., as dean of the medical faculty in succession to the late Dr. Fife Fowler. The appointment will be received with great satisfaction.

Dr. Connell is a native of Dundas, Ont. He graduated at Queen's as M.A. in 1885, taking the medal in mathematics. Three years later he took his medical degree. Then he studied in the large United States hospitals in eye, ear, throat and nose diseases. For the past thirteen years he has been practising his profession in Kingston. For some years past Dr. Connell has been a professor in the Medical College. His thorough knowledge of university affairs, his ability as a medical man and his popularity well fit him for this, the highest position the faculty of Queen's can offer.

CURRENT MEDICAL LITERATURE.

MEDICINE.

Under the charge of A. J. Mackenzie, B.A., M.B., Toronto.

DISTURBANCES OF RESPIRATION IN THE NEW-BORN.

In the *Archives of Pedeatrics* for September, Wilson describes various forms of dyspnoea that may attack the new-born, viz.: dyspnoea of pneumonia, marked by the absence of paroxysmal attacks; the increase in the signs and symptoms and the advancing somnolence; stenotic dyspnoea, accompanied by spasm, unaltered voice and labored crowing inspiration; dyspnoea due to enlargement of the thymus gland, due rather to reflex irritation than to actual pressure effects, the symptoms may appear suddenly and become fatal: dyspeptic dyspnoea, where signs of interthoracic origin are wanting, and other significant signs of indigestion, etc., are present. This form is toxæmic, with quickened and weakened pulse. Besides these forms one might mention asphyxia and atelectasis, which, however, are important, chiefly from the obstetrical aspect.

INJURIES AND INFECTIONS OF NEW-BORN CHILDREN.

In the *Archives of Pediatrics*, September, Snow calls attention to the large infant mortality during the first month, amounting, according to Eröss' European statistics, to 9·5 per cent. of all children born, while in Buffalo it is 9·30. That this is not a normal mortality is shown by comparison with Norway, where the mortality is 8·38. The number dying during the first week is almost double that in Europe, which would seem to suggest that here more children die of accidents of parturition, while in Europe the majority die of infection. The chief cause of this early mortality, the author believes, is intercranial hamorrhage, due to injuries to the skull and its contents during parturition, either from forceps, pressure or natural shaping of the head; and he claims that many of the deaths classed as dying of immaturity, insufficient vitality, asphyxia, etc., are really due to this cause. The writer recites a number of cases which support this position.

ORAL AND RECTAL TEMPERATURES.

In the *British Medical Journal*, October 24th, 1903, Kelynack and Williams, of Mount Vernon Hospital for Consumption, give the results of a study of the relative values and the variations between oral and rectal temperatures. Their conclusions are as follows :—

(1) Temperatures carefully taken in their mouth during rest form a reliable guide in the management of phthisical cases under conditions of sanatorium life.

(2) Temperatures taken in the mouth during or shortly after exercise cannot be considered trustworthy unless registered with such precautions as militate against their general practical applicability.

(3) Temperature taken in the rectum during rest, generally speaking, register higher than in the mouth, but do not, otherwise, usually afford any special assistance in the management of phthisical cases.

(4) Temperature taken in the rectum during or shortly after exercise in both health and phthisical subjects register a temperature considerably higher than that in the mouth, and whilst in the non-tuberculous the return to normal is more rapid than in the tuberculous. No special direct advantage for the phthisical appears especially to accrue from this method.

(5) For practical purposes for the management of phthisical cases undergoing so-called sanatorium treatment, the registration of temperature by the oral method, when taken during rest and with due care, affords reliable guidance.

SOILS IN THEIR RELATION TO HEALTH.

In the volume of the *Reference Handbook of the Medical Sciences*, just issued, Professor William Oldright discusses the relation of soil to health, as (1) direct, by their component parts and immediate products being taken into the organism ; (2) indirect, by their influence in modifying other surrounding conditions. The direct influence may be excited (*a*) chemically, (*b*) by introducing pathogenic micro-organisms, (*c*) by acting mechanically on the tissues. Among indirect influences may be mentioned : those upon the ground water, the influence upon water supplies, the ground air and the temperature of the air, and the effect upon insolation. The vegetation and configuration of the land markedly affect the air in any germ locality.

EXAMINATION FOR LIFE INSURANCE.

In the *Medical Times*, November, 1903, Pratt discusses the qualifications of an examiner for life insurance and the points to be emphasized in such an examination. In determining the relation of the use of alcoholic liquors to the eligibility of the candidate, it is noted that English statistics seem to show that the mortality is less there among moderate drinkers than among teetotalers; but the chief importance attaches to the question as to the effect that alcohol may have had upon the system of the applicant, and his habits—"refuse a policy to one who acknowledges drinking before breakfast," and, of course such as show functional or other evidence of its effects.

In the examination of the urine, it is important that the examiner should use apparatus and reagents beyond suspician and that he should be able to interpret the results of chemical or microscopical investigation. The possibility of physiological albuminuria and glycosuria must be admitted, but when albumen or sugar is found the case should be refused insurance until it has been positively ascertained that there is no pathological significance in the symptom and that it has been of only a temporary character. It would be well to postpone the examination for a year. If the applicant is over fifty, the company, if insuring him at all, should make a high rate.

It is inadvisable to issue policies except upon very high rates to persons suffering from chronic suppuration of the middle ear; the symptoms of importance being the duration, the condition of the meatus, the nature of the discharge and the presence of pain, tenderness, giddiness, etc.

With regard to heart lesions: consider (1) the character of the murmur and position of its greatest intensity; (2) the time of its occurrence; (3) the position of the apex-beat and evidence of cardiac enlargement or alteration in the position or shape of the heart; (4) the symptoms that point to disturbance of the circulation; (5) the character of the pulse as regards force, irregularity, intermittency; (6) the antecedent history of the case, questions of rheumatism, gout, or syphilis or other taint.

NARCOLEPSY.

In the *Medical Times*, November, Fitch discusses this peculiar malady, describing a number of cases, and concluding as follows: It will be noted the neuropathic element was not prominent in the larger per cent. of these cases, although the narcolepsy was pronounced in all;

Age cannot be considered as having any special influence based upon these observations ;

Sex seems to have some bearing, as of twelve cases but one occurred in a female ;

When occurring in young subjects there is often improvement, or the narcolepsy may even entirely disappear during adolescence ;

Obesity, gouty and hepatic diseases are apparently factors of more or less prominence ;

This disorder may disappear with or without treatment, to reappear when the general health of the individual is below the normal standard ;

It seems impracticable, from evidence thus far deduced, to arrive at a satisfactory conclusion as to principal etiological factors, little being apparently accurately known of either etiology or pathology ;

No method of treatment thus far suggested directed toward relief of the disease, *per se*, appears to have any appreciable affect, but amelioration not infrequently follows the correction of other systemic irregularities, *e.g.*, cardiac, digestive, assimilative, gouty, lithemic, malarial.

SURGERY.

Under the Charge of H. A. Beatty, M.B., M.R.C.S., Eng.,
Chief Surgeon Canadian Pacific Railway, Ontario Division, Surgeon Toronto Western Hospital.

THE TREATMENT OF FRACTURES.

J. B. Taulbee in the *Medical Age*, October, advocates moblization in contradistinction to immobilization in the treatment of fractures of the long bones. This method has been for many years regarded by the French surgeon, Lucas-Chapionnière, as ideal. The writer considers the treatment of fractures to be the most difficult branch of surgery to practice successfully and creditably, as no other requires more vigilance and attention or a more enlarged experience. An unsuccessful result continually reminds the surgeon of his bad luck, neglect, or want of practical skill, and is a standing menace in this day of merciless prosecutions for malpractice.

Taulbee urges that after the fragments have been carefully adjusted preferably under an anæsthetic, the limb should be placed in a form of splint which will leave the site of injury exposed. This is of especial advantage in compound, comminuted or complicated fractures. In some cases it is well to incise over the seat of fracture and remove from about the fragments all spiculae and clots which may interfere with the process of repair.

After three or four days, gentle massage is commended. Thereafter the dressing is removed daily and appropriate massage and mobili-

zation employed. This will quicken the circulation in the part, help the absorption of the extravasated fluilds, relieve the pain, restore the normal condition of nutrition, and stimulate the process of repair. For this massage and mobilization the surgeon should be his own masseur. In ordinary fractures, the massage ought to be made in the direction of the venus circulation to help empty the congested tissues. It should be as nearly as possible painless, and should begin on the sound tissues above the point of injury and gradually descend to the congested part. It ought to be soft and light at the commencement and become more vigorous towards the close. An unguent should be used, and only the soft, smooth part of the hand applied. The massage should last for five or ten minutes.

Massage and mobilization should be practiced from twelve to four-days, when in most cases it will be found that the inflammation and swelling have disappeared. Mobilization should now cease and absolute rest of the fragments be maintained. Massage is still applied daily and assists in mending the callus which has been thrown about the fracture, and in hastening the firm reunion of the fragments. At the end of three weeks, a fixed dressing can be safely applied and the patient himself can begin to exercise the limb.

LOOSE CARTILAGE IN THE KNEE.

"The Formation of Loose Cartilage in the Knee Joint," is the subject of a paper by E. A. Codman in the *Boston Medical and Surgical Journal* for October. The writer does not include injured or displaced semi-lunar cartilages under this title, but confines his remarks to those cartilage-like bodies, varying greatly in size, which exist either free in the joint or held by a pedicle or light adhesions to the capsule. The presence of such bodies may in some cases cause no trouble, but usually painful locking of the joint occurs, or chronic synovitis is set up. When such cases come to operation, a small incision is made in the capsule, and the loose body is "popped out." The result is usually a perfect cure.

In considering the formation of these bodies, the writer mentions the three commonly-accepted theories of origin. One explanation is that the process of formation is one of concretion, comparable to the formation of biliary or cystic calculi—that the nucleus is a clot of fibrin, a bit of torn fringe, or a fragment of semi-lunar cartilage. Another view is that such bodies are originally osteophytic growths on the lips of the articular surfaces and become broken off. A third view considers them actual bits of cartilage set free by trauma

This latter theory, the writer thinks, clearly accounts for the vast majority of cases of loose cartilage, although occasionally a case from one of the other causes may occur. This view seems to be confirmed by the scars which he has observed on the articular surface of the internal condyle, to some of which the loose bodies have closely corresponded. In one case he found the little piece of cartilage still attached by its margin to its former bed, into which it exactly fitted. In the great majority of loose bodies, one side is of cartilage and the other of modified spongy bone, and the usual site of origin is the articular surface of the internal condyle—the external condyle is almost completely protected by the potella when the knee is flexed and so usually escapes injury.

Dr. Codman concludes, from the experiments on the cadarer, that the life-history of the loose cartilage comprises two injuries—one to depress it, and one to free it, though frequently the first is forgotten.

The continued growth of the osteo-cartilaginus chip is explained by the rational hypothesis that adhesions are formed with the capsule.

POST OPERATIVE OR INCISIONAL ABDOMINAL HERNIA.

In the *Pacific Medical Journal* October, Winslow Anderson discusses "Post-Operative or Incisional Abdominal Hernia." A careful consideration of a number of cases leads him to the following conclusions:—

1. A lateral incision is more frequently followed by hernia than a median incision. 2. Hernia follows the through and through suture more frequently than the layer to layer method. 3. Bulging of the abdominal walls is more frequent in suppurating wounds, such as suppurating appendicitis, than in aseptic wounds, on account of the necessary opening for drainage. 4. "Destructive innervation" of the muscle and fascia is a factor in post-operative hernia. 5. Allowing a patient to sit up and go about in eight or ten days after a colliotomy is responsible for many a ventral hernia. 6. Inaccurate apposition of the belly walls will weaken the resulting cicatrix. 7. Too early removal of the abdominal sutures will leave the union weak. 8. The use of ordinary catgut which absorbs in a few days is a predisposing cause of hernia. 9. Long incisions are more prone to separate than short ones. 10. In a lateral incision the layers of the abdominal fasciae should be divided in the direction of the thin fibres and not cut "across," that is, the external oblique should have its fibres divided from above, downwards and inwards, and the internal oblique from below, upwards and inwards, and the transversatis transversely. Such wounds are practically self-

closing. The layers should then he sutured together *separately* with chromocized, cumulized catgut which does not absorb for 21 to 28 days, by which time union is firm. 11. Median incisions, especially in pendulousabdomens, or after abdominal hernia, are best treated by means of the overlapping or "double-breasted" method of suture. 12. Suppurating wounds that heal by granulation should have the fasciae firmly united by means of a "double-breasted" suture as soon as there is the slight-indication of bulging of the walls. 13. There is no strength in the muscle fibres. It is the fasciae covering the muscles which must be firmly united after an incision. 14. Diabetes and constitutional dyscrasias will militate against firm union. 15. It is necessary to support an abdominal cicatrix for three months by a suitable abdominal belt to prevent stretching of the scar.

OPHTHALMOLOGY AND OTOLOGY.

Under the charge of G. STERLING RYERSON, M.D., C.M.
Professor of Ophthalmology and Otology, Medical Faculty, University of Toronto.

AN OLD TIME EYE QUACK.

Brown Pusey, *Journal of American Medical Association*, gives extract from "the life and extraordinary history of Chevalier John Taylor, Ophthalmiator," published by his son, John Taylor, Oculist, 1761. Taylor seems to have been a highly successful quack and, had he lived in the present century, might have been a doctor of refraction, or Doctor of Optics. As it was, he was an Ophthalmiator, which sounds much bigger. Among his publications was "an accurate description of 243 different diseases to which the eye and eyelids are exposed." The particular copy, reviewed by Brown Pusey, had been presented to a relation by Taylor with a letter from which the following is copied: "If it has intrinsic value so much the better; if not, keep it lying about where your patients can see it. It looks so learned you can charge without hesitation in two languages." The text is in German and Latin.

The Chevalier pursued one plan when he was finally located in England, which modern quacks do not use and which appears to his advantage. This plan is brought to the notice of the reader in the back of the third volume of his "History." He calls attention to the great suffering of the poor in England from eye diseases, and suggests to the prosperous of the nation that each subscribe two guineas yearly, and all who do this are entitled to send, during the whole year, the poor thus afflicted to Taylor's son's house, where the Chevalier himself will gladly assist.

PROFESSOR PANAS.

Panas' life history is encouraging to young and unknown practitioners, apart from the fact that he is one of the group of men to whose energy and ability is due the great advances of modern ophthalmology, in contrast with men of the Taylor type. Born at Cephalonia, Greece, the son of a physician, he was sent to Paris at seventeen to commence his medical studies. From the outset, he showed great ability for work and assimilation. House Surgeon at twenty-two, he received the gold medal of the faculty of Medicine the following year, 1855. He applied himself to surgery and became prosector of anatomy in 1861, when he published his thesis on "The anatomy of the nasal fossæ and of the lachrymal passages"—a subject which he was destined to study most successfully in later years. The word ophthalmology was hardly known in France at this time. Everyone treated diseases of the eye in the surgical clinics and the rest was left to a few specialists, chief among whom were Sichel and Desmarres. From 1859 to 1863, Panas devoted himself to teaching, giving anatomical and operative surgical courses at the Ecole Pratique. In 1863, he received his fellowship degree and served successive terms as surgeon at various hospitals. His days of probation having passed, practice came to him rapidly. Everybody smiled on the young surgeon, so devoted to his art and possessed of a charming manner. During the war of 1870, Panas was surgeon to St. Louis Hospital and, at the same time, took up military duties at St. Martin's Hospital. After the war, he received the cross of the Legion of Honour. The war had called the attention of the French to the numerous flourishing chairs of ophthalmology in Germany, and Panas, who had organized special services at St. Louis and afterwards at Lariboisière hospitals, was, in 1873, requested by the Faculty to give a course of lectures. It was at Lariboisière that the writer first met Panas, and followed his course of instruction in 1875 and 76. He had a clear, incisive, and almost epigramatic way of putting facts, which greatly impressed the student. Add his charming and courteous manner, and you have an ideal teacher. In 1879, when the chair of ophthalmology was created, Panas was chosen to fill it. From this time, he spent much time at the Hotel Dieu and devoted himself exclusively to teaching ophthalmology. With Landolt and Poncet de Cluny, he founded the "Archives d'Ophthalmologie," in 1881. By the authority of his teachings, the great value of his investigations, and the increasing number of visiting foreigners, Panas soon established himself as the head of the French School of ophthalmology. In 1898, he was elected president of the Academy of Medicine and presided over its sessions with notable charm

and authority. He deserved all these honours, because of his great intelligence and the conscientious performance of his duties. He was a most skilful surgeon, possessed of extraordinary manual dexterity. His after treatment was most careful, for he changed the dressings himself and was one of the first in France to adopt Lister's methods. In cataract operations, he showed a marvellous dexterity, making the corneal incision with a single movement of the knife. It would be impossible with the space at my disposal to give a complete account of his scientific works, but a short analysis may be attempted. They may be divided into two parts, first, those on anatomy, physiology, and pathology ; and, secondly, those on ophthalmology. His surgical studies were especially directed to the joints, to abdominal surgery, genito-urinary disorders, and the nerves. His ocular work involved experiments in connection with sympathetic ophthalmia, parenchymatous keratitis, glaucoma, etc. He was one of the earliest advocates of intraocular lavage after cataract extraction. His book on diseases of the eye appeared in 1894, and was the crowning work of his life. He applied to everything the motto of the Surgical Society "La vérité dans la science, et la moralité dans l'art;" and his own life was a striking illustration of it. It remains only to be pointed out that diligence, ability, rectitude brought this young Greek, a stranger and a foreigner in France, to the highest honours both in his adopted country and abroad. He died on January 6th of this year: In the *Ophthalmic Record* from the *Archives d'Ophthalmologie* by E. A. Shumway.

PREVENTION OF OPHTHALMIA NEONATORUM.

Rosner, *Med. Blatter, Annals of Oph.*, states that Credè, in 1881, published his method of preventing this disease. After enumerating the various attempts at opposing this method, especially by Carl Schröder, Professor of Obstetries at Berlin, the author comes to the conclusion that a ten per cent. solution of protargol is the best substitute for silver nitrate. The drug is just as efficient as silver nitrate and does not possess irritating effects. Protowski used protargol in 1030 consecutive cases of new born infants, with no percentage of blenorrhea.

PROVINCE OF QUEBEC NEWS.

Conducted by MALCOLM MACKAY, B.A., M.D., Montreal.

THE opening meetings of the Montreal Medico-Chirurgical Society have been particularly well attended, and, thanks to the President's remarks in his address to the members, the discussions have become more general, and consequently more interesting. The method adopted of showing living cases and pathological specimens between 8.30 and 9 p. m., before the regular meeting opens, has been a great success, for not only can a close examination be made and questions asked, but also a great deal of time is saved in the subsequent presentation of the case reports.

Among the pathological specimens exhibited were two kidneys demonstrated by Dr. Martin. They were obtained from a young man 18 years of age, who gave a history of having had measles when 7 years old, and consequently suffering from what was called diabetes,—at all events an increase in the quantity of urine passed. Until six months previous to his admission to the Royal Victoria Hospital he had been in fairly good health, but from that time he had failed rapidly, and, after being in the hospital for a few days, died in uræmic convulsions. While under observation the patient passed about forty ounces of urine per diem. Its specific gravity was 1008, and it contained a large quantity of mucus and from four to five grains of albumen to the litre. No casts could be found, but quite a number of pus cells were invariably present. A post-mortem examination of urinary organs was made and the kidneys were found to be exceedingly small, with practically no cortex; the calices and pelvis were dilated, and although the ureters were normal the bladder showed marked hypertrophy of the wall with well marked cystitis.

Dr. Armstrong showed a specimen of early carcinoma of the bowel which had been resected in order to relieve obstruction. The patient entered the General Hospital complaining of vomiting, constipation, and loss of appetite, and gave a history of having received a blow on the abdomen seven months before, which had been followed by constant pain in the left side. One week previous to admission the vomiting and constipation commenced, and was followed by abdominal distension and visable peristalsis. No blood or mucus had been passed in the stools. Enemata and purgatives were tried for thirteen days without

success, and operation was then advised. On opening the abdomen a tumor was found in the sigimoid flexure, and two or three enlarged glands could be seen in the mesentery. One of these glands was excised and examined at once by the pathologist, who reported that no signs of carcinoma could be found in the sections examined, but as the patient's condition was bad a lateral anastomosis was made and the wound closed temporarily. At a second operation the tumor and glands were removed and the patient made an uneventful recovery. The tumor was found to be a carcinoma, but Dr. Armstrong thought that there was such a slight involvement of the glands excision was the best treatment.

At the same meeting, Dr. Birkett showed a large salivary calculus and Drs. Abbott and Fry a specimen of a cleft palate in a new born child. Dr. Mackay also showed a brain riddled with air cavities caused by the bacillus welchii. Dr. Adami read a most interesting and entertaining paper on 'Appetite juice,' containing a survey of the recent work of Pawlow on the digestive tract of dogs, and comparing it with the results obtained by Beaumont with Alexis St. Martin.

Dr. Lapthorne Smith presented a specimen of a tumor which he removed from a young woman suffering from indefinite abdominal symptoms. The tumor, which was about the size of a cocoanut and contained clear fluid, intimately associated with the kidney and was in fact enclosed in its capsul. In removal the renal vessels had to be ligated, and consequently the kidney came away with the tumor, leaving its capsul behind. The patient showed no ill effects and in fact was relieved of her abdominal symptoms. Dr. Archibald suggested that the tumor in all probability was formed from the remains of the Wolffian body.

Dr. Garrow brought before the society a living case of congenital dislocation of the hip treated by the so-called bloodless method. The result was particularly good, there being less than one cm. of shortening and the gait absolutely normal. The case was a particularly favorable one as there was a good acetabulum and muscles were lax. One point of special interest was the short time occupied in obtaining the result, for nine months after operation the child was walking without any artificial support. Dr. Monod congratulated Dr. Garrow on the result and pointed out that in girls an apparently better result was obtained simply from the fact that they wore skirts and were able to conceal any slight defect. Dr. Garrow also reported a case of congentual absence of the fibula with deformity of the femur in a child of three months. The photographs and skiagraphs very plainly showed the bowing of the femur and absence of the fibula, as well as the perfect condition of the tarsal bones.

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Dr. Elder read a paper on the treatment of ventral hernia, advocating the overlapping of the denuded recti muscles, joining them with mattress sutures, and then closing the wound, after sewing up the sheaths; stating that he did not think that the operation was well known and that as he had operated successfully in this way in four cases he thought it well to bring it up for discussion. Dr. Lapthorne Smith said that he had obtained satisfactory results by simply joining the edges of the recti muscles, but could see the advantage of this method in certain cases. Drs. Keenan and Garrow thought that the operation had been in use for ten years at least, and they reported cases in which the result had been excellent.

Plans for the new contagious disease hospital at Montreal have been accepted, and the new Alexandra Hospital, as it is to be called, will soon be erected on Charron St., Point St. Charles. The design shows the administration building in the centre, measuring 96 by 44 feet. The chief wards for measles, scarlet fever, and diphtheria, are 125 by 40 feet, and the erysipelas and observation wards 60 by 32 feet. The buildings will be two stories in height and the cost will be in the neighborhood of $100,000. The three divisions for the treatment of measles, diphtheria, and scarlet fever, have been placed to the east, south, and west respectively, of the kitchen, which occupies the centre and measures 34 feet square. The erysipelas ward is placed to the east of the administration building, between the street and the measles ward, and an observation ward for the receiving and treatment of doubtful cases occupies the space immediately to the west of the administration building. Thus each ward is a separate unit in the general plan, and, though isolated, is still connected with the administration block and kitchen department by covered corridors.

A room for the changing of clothes on the arrival and departure of patients is found just outside each ward, and a patient whose disease has been diagnosed may be taken directly to the proper building without coming into contact with the approaches of any other ward or department. An addition which will be appreciated by the students is an examination room for the diagnosis of cases, for in the past proper opportunities have not been afforded them for studying infectious diseases. This ward will be reserved for doubtful cases and will have a separate isolated approach.

Each building has its ward for male patients on the ground floor, and for female patients on the first floor, and instead of a stair-case or elevator, an inclined plane is provided. Over each first floor and approached by an isolated stair-case is the accomodation for the nurses

on duty, consisting of a dining-room, sitting-room, pantry, three double bedrooms for nurses, an attendant's room, bath room and box room.

The administration quarters contain rooms for the resident physician, matron, trustees, etc., as well as a dispensary. Provision has been made in the plan for two additional wards of the larger size when they may be required.

The annual report of the Notre Dame Hospital has just been published, and in it the Medical Superintendent states that 2,433 patients were treated in the hospital wards, with a mortality of 7·6 per cent. In the out door department 21,245 consultations were held and over a thousand ambulance runs were made. The financial condition was satisfactory there being a balance of $4,731 on the right side. It was stated positively at the annual meeting that the contagious hospital would be erected in the spring, and that the new Notre Dame General Hospital would follow. The plans for this structure are ready and a site on the Lafontaine Park has been selected. It is to be four storeys high, built in the shape of a cross, with the main entrance on Sherbrooke St. On the ground floor will be placed the dynamos, steam apparatus, and engineers' rooms, as well as the kitchen, laundry, and servants' apartments. The first floor will be occupied by the sterilization, anæsthetic, ophthalmological, and gynæcological hall, besides an amphitheatre, room for patients after operation, private rooms, and pharmacy. The second and third flats are to be similar to the first: each containing operating rooms and quarters for the sisters and nurses. On Sherbrooke Street is to be constructed a handsome terrace and roof garden for the use of convalescents.

The contagious section will be connected with the main hospital by a tunnel and large covered corridors will afford communication with the nurses' and attendants' pavilions.

Dr. John W. Scane has been appointed Registrar of the Faculty of Medicine at McGill in succession to Dr. Von Eberts, who has resigned the position after filling it to the entire satisfaction of the Faculty for twelve months, on account of the increasing pressure of his hospital and private practice engagements.

Dr. Scane is a graduate of McGill of the class of 1893. For some years he held a position in the Royal Victoria Hospital, and has more recently been an assistant to the professor of physiology at McGill. He practised for some time in Westmount and afterwards at Ste. Therese.

UNIVERSITIES AND COLLEGES.

THE HOSPITAL FACILITIES FOR CLINICAL TEACHING IN THE CENTRES OF MEDICAL EDUCATION.

TORONTO.

1. Toronto General Hospital.

This hospital has now 425 beds, and during the year the number of in-patients has varied from 250 to 300. During the year over 3,300 patients are treated in the wards, and 16,000 in the out-patient department. Most of the cases are of an acute character. and, therefore, well suited for clinical teaching. Clinical instruction is given in the lecture theatre and in the wards on medicine, surgery, gynæcology, obstetrics, and diseases of the eye, ear, nose, and throat. Surgical operations are performed on Tuesday and Friday afternoons. The theatre is capable of seating 600 students. The additions recently made to the Hospital, afford excellent scope for out-door clinics. A physician and a surgeon are in attendance on this part of the work every day. In the emergency branch of the Hospital there are unusual opportunities for the study of injuries, and classes are permitted to avail themselves of this material. In the Pathological Department, autopsies are performed at stated hours of the day. The opportunities afforded for this part of a student's studies are particularly good.

2. The Victoria Hospital for Sick Children.

This Hospital, with 160 beds, is entirely devoted to the diseases of children. This Hospital furnishes exceptionally good facilities for the study of children's diseases, and students are allowed every opportunity for a personal examination of all cases.

3. St. Michael's Hospital.

This Hospital has a bed accommodation of 160. It is conducted as a general hospital, and admits medical, surgical, and obstetrical cases. A member of the Hospital Staff are also members of the University Medical Faculty and give clinics in the Hospital. Post-mortem examinations are conducted systematically so that students may avail themselves of this material.

4. The Toronto Western Hospital.

This Hospital has now accommodation for 100 beds. At a recent meeting of the hospital corporation it was decided that students might be admitted under certain conditions to be agreed upon.

This Hospital is a general one, and offers many opportunities for the study of medical and surgical cases.

In all of the above hospitals, graduates are appointed as resident physicians and surgeons.

5. The Asylum for the Insane.

Mental diseases are taught clinically in this institution, which contains about 700 cases.

It will be seen from the above that there is hospital accommodation in Toronto for 845 beds at the disposal of clinical teachers.

MONTREAL HOSPITALS.

THE history of the hospitals in Montreal dates back to the 17th century, when the Sisters of St. Joseph, under Mademoiselle Mance, established the Hotel Dieu at the cost of forty thousand livres. This was the only general hospital in the city until 1819, when a small building suitable for receiving twenty-four patients was rented and called the Montreal General Hospital. From this time the hospital accommodation has been extended with the increasing population, and in fact is becoming greater in proportion to the number of citizens year by year, as more patients are taking advantage of free advice. The pendulum of popular prejudice against hospital treatment is swinging far to the other side. People who can well afford to pay a physician, patronise the outdoor departments and dispensaries, and are encouraged rather than discouraged by those whose lust for large figures in the annual report seems to overcome their sense of justice. This is particularly true of the specialist's departments Patients know that they will have to pay a specialist a good sum for a consultation, and to save expense they prefer to drive to the hospital in a cab, wait their turn, and get their remedy free, having faith enough to believe that the result will be equal, if not superior, to that which would be obtained from a private interview.

The necessity for Hospital extension is still more urged upon the authorities by the demand for public-ward beds by the middle classes, and as a result the Hotel Dieu and Royal Victoria Hospital each added a new wing last year; and the governors of the Notre Dame, Western, Montreal Maternity, and Contagious Diseases Hospitals, have in their hands accepted plans for new buildings which are to be erected immediately.

1. The Hotel Dieu de St. Joseph.

The Hotel Dieu de St. Joseph is the oldest hospital in Montreal, having been founded in 1644 by the liberality of Madame de Bullion. It consists of a large main building with three wings, one of which was

enlarged in 1902, chiefly for the purpose of increasing the accomodation for the out patients and for new operating rooms. The large dispensaries, x-ray room, and operating rooms have been finished in the best style and the addition has been a valuable one to the students of Laval University who receive part of their training at this institution. The main part of the hospital contains three large wards with room for 44 patients in each, and a number of smaller wards, which, together with the private rooms in the new building, brings the number of beds close upon 300.

2. The Notre Dame Hospital.

The Notre Dame Hospital is the second large general hospital supported by the French Catholic section of the community. It was founded in 1880 and contains some 150 beds. Situated as it is in the centre of the business portion of the city, it rivals the Montreal General Hospital in the number of accident cases brought in from the wharfs and factories in the vicinity. Three ambulances and six horses are kept constantly in requisition for this important branch of the hospital service, and over 1000 runs were made last year. The students of Laval have thus ample apportunity of studying acute cases, and assisting in emergency work. During the year it is customary to have more than 2000 cases admitted to the wards, and the out door consultations range between 20,000 and 25,000 per annum.

The nursing in both of these hospitals is carried on by nuns, although this year for the first time a trained nurse graduated from the Notre Dame Hospital and a regular school has been established.

The Laval students receive their instruction by means of ward clinics and attendance at the operating theatres, and in addition the out-door departments of both hospitals are at their disposal, as well as L'asile de la Providence, and Le Dispensaire St. Joseph. Clinics in all the special branches, ophthalmology, laryngology, nervous diseases, pediatrics, gynæcology and skin diseases are held at one or another of these institutions, and mental diseases are taught at Longue Pointe Asylum.

3. The Montreal General Hospital.

The Montreal General Hospital consists of a Surgical, a Medical, and a Pathological Department.

The Surgical Department has two large pavilions containing four wards, 135 feet long by 35 feet broad, with an intervening and connecting building in which is a large operating theatre capable of seating over 350 students. In connection with this are preparation, etherising, instrument, and smaller operating rooms. The old part of the hospital, which was completely rebuilt and remodelled a few years ago, forms the

Medical Department, and contains four wards, 100 feet by 40, arranged for 150 beds. In this building there are wards for gynæcological and ophthalmological patients, a number of private wards, and the laboratories for clinical chemistry. There is also a medical amphitheatre and gynæcological operating room, capable of seating 150 students. The central part of the old building is for administration purposes. The out-door department is situated on the ground floor, and there is ample accommodation for the various special departments as well as large rooms for general medical and surgical patients. The pathological department contains the post-mortem theatre and rooms for microscopical and bacteriological work, also a mortuary and chapel.

Last year's report shows that over three thousand medical and surgical cases were treated in the wards, and the great proportion of these were acute cases, as may be gathered from the fact that the average duration of residence was only 24.02 days. Besides this there are upwards of 40,000 consultations annually in the out-door department.

4. The Royal Victoria Hospital.

The Royal Victoria Hospital was opened in 1894, and was designed to accommodate between 250 and 300 patients.

It is composed of three main buildings connected by stone bridges; an administration block in the centre, and a wing on the east side for medical patients, in connection with which is the pathological wing chapel and mortuary, and a wing on the west side for surgical patients.

The administration block contains rooms for the resident staff, nursing staff and domestics. To the north of this block has been erected a large out-patient's department in which are special rooms for minor surgery, ophthalmology, laryngology and gynæcology.

The medical wing contains three large wards, each 123 feet long by 26 feet wide, one ward 40 by 26 feet, and 15 private and isolation wards, also a medical theatre with a seating capacity for 250, and several rooms adjacent for clinical chemistry. In the pathological department, besides the chapel and mortuary, there is a post-mortem room designed for 250 students, and laboratories for students, post-graduates, and those conducting special research.

The surgical wing contains three large wards, 123 by 26 feet, and four smaller wards, 40 by 32 feet, together with private wards, operating rooms for 250 students, and numerous preparation and instrument apartments. There are separate rooms for x-rays, static electricity, hot air treatment, and photography, while behind the main building there is an isolation pavilion for infectious cases.

The number of patients admitted last year was 2,814, and the number of consultations in the out-door department, 21,950.

The students of McGill University are granted exceptional privileges in both of these hospitals, for they are allowed free access to all the wards, with liberty to examine any of the patients from 10 a. m. to 4 p. m. on every day of the week except Sunday; and again from fifteen to twenty vacancies on the resident staff are filled annually by members of the graduating class. The appointments last from one to three years and some of them carry with them a small salary.

In order to facilitate the work and prevent confusion, the classes are divided into two groups; one attending the General Hospital and the other the Royal Victoria, during the second term the divisions change places so that each group has the advantage of seeing the work and comparing the views of the different men.

The group at each hospital is sub-divided into two parts, one taking surgery, and the other medicine. Beds are assigned to each student who examines his patient, writes up a complete history of the case with diagnosis, prognosis, and treatment, and who may be called upon at any time to read his report before the whole group, and have it discussed and commented upon by the professor in charge and his fellow students. At least ten medical and ten surgical cases must be reported in this way. Ward clinics in each department are conducted daily, when small groups receive bedside instruction, and in addition the whole division attends the general theatre clinics both in medicine and surgery, which are held three times a week. Small groups of from four to six attend the clinics in the special departments of which there are two in each department weekly, the clinical material in ophtholmology, neurology, and dermatology, being particularly plentiful.

In the junior years special divisions receive clinical instruction in the out-door departments, and members of the senior years are given cases to diagnose and treat, under the direction of the medical and surgical assistants.

In the pathological department students are required to take active part in the autopsies, and demonstrations are given on Saturday mornings when pathological material of interest collected during the week is discussed.

Mental diseases are taught at the Verdun asylum.

The students of Bishop's College attend the General Hospital and the Western Hospital. The latter institution receives most of its patients from St. Henry and Ste. Cunegonde, and has a large out-door service. It was founded in 1875 and can accommodate 50 patients. An extension had been contemplated for some time, and a large sum has already been contributed to this end.

The general hospitals in Montreal refuse maternity cases, as they are well provided for by separate institutions set apart for this work. L'Hospice de la Maternite founded in 1845, contains over 300 beds, of which 200 are devoted to maternity cases alone. The Woman's Hospital founded in 1874 contains 50 beds, and the Montreal Maternity 22 beds Plans for a new building for the latter have already been designed, and a suitable lot selected, so that shortly a building more worthy of the work will be commenced. Students have free access to these hospitals, and obstetrics are taught in a practical way under the supervision of the physicians in charge, in addition outside cases are assigned to those who have obtained a certain proficiency.

A number of other institutions supported by public and private subscription are doing good work among the poor of the city, as the Montreal Ophthalmic Institute with 50 beds, the Samaritan Hospital with 14 beds, the Homeopathic with 55 beds, and the St. Margaret's home for incurables with 55 beds.

The Montreal Isolation Hospital with 100 beds, and several branches in the city where infectious cases are received, is one which has struggled for years with inefficient financial support. Fortunately, this state of things will soon come to an end, as two new infectious hospitals will be constructed under the direction of the Protestant and Catholic Hospitals. A description of the Alexandria Hospital for Protestants is to be found in another page of this issue. The Catholic institution is to be built in connection with the new Notre Dame Hospital.

THE KINGSTON HOSPITALS.

1. The General Hospital.

At the close of the war of 1812-15, Kingston found herself overrun with a most undesirable class of immigrants. They were poor, and work was to them neither a privilege nor a source of pleasure. Their poverty soon found an ally in filth, and one of the numerous progeny of this unholy alliance has ever been disease.

But pain begets sympathy. There are few exceptions, and certainly this was not to be one.

A few citizens banded themselves together under the name of "The Kingston Compassionate Society," their avowed object being to relieve distress and suffering among these unhappy sojourners and others.

The society's work and responsibilities soon increased. The "wandering population" have ever been keen to appreciate their opportunities, and to avail themselves of the lavish charity of well-meaning but ill-advised people.

Many a clean bed in a hospital ward has been occupied for weeks at a time during the winter season by these pestiferous parasites—sexual inverts or worse—suffering it may be from a small varicose ulcer that never heals.

This ought not so to be. Hospital superintendents throughout the province have a duty to perform in this connection.

And so it happened that in the year 1821, at the age of three and a half years, "The Kingston Compassionate Society" found itself with the same lofty ideals as before, but with a depleted treasury. The work was then taken up by "The Female Benevolent Association"—a much more powerful organization. To this society belongs the credit of making the first successful appeal to the government for a General Hospital at Kingston.

In 1832, after many discouragements and much luke-warm support, representations were made, through the efforts of this society, to the legislature of Upper Canada for an appropriation, and a guarantee given that the amount would be largely supplemented by private subscriptions. Early in the following year, a grant of £3,000 was made, and three commissioners were appointed to carry out the project.* These commissioners appointed a deputation consisting of Dr. Sampson, Dr. Armstrong and Thos. Rogers Esq. architect, to proceed to Montreal to inspect the hospital there.

Their expense account reads as follows:

	s	d
Kingston to Williamsburgh	£3 0	0
Extra stage from Williamsburg to Montreal.....	£10 0	0
Return trips	£13 2	6
Extras	7	6

Dr. Sampson explains that the extra stage was absolutely necessary as the regular coach proceeded but 4½ miles per hour. There does not seem to have been volunteered any explanation for the extras amounting to 7s. 6d. but any one, familiar with the expenses, extras etc. of modern deputations, will not cavil long over a bill of extras amounting only to 7s. 6d.

The contracts for the work were let June 17th, 1833, and the building was completed, July 10, 1835.

But what too frequently happens in the management of mendicant institutions in our own day occurred here: the erection of the palatial building reduced the institution to the verge of bankruptcy. The interior was still unfinished. However, in 1837, a further grant from the Legislature of £500 rendered the building habitable.

*At present there are eleven governors of the hospital appointed by the legislature.

But these were troublous times. The country was in the throes of a rebellion. Mackenzie, Dr. Rolph and Dr. H. H. Wright (then a med. student) had met disappointment but a few weeks before at Montgomery's tavern. (They were all rebels then.)

Troops had been ordered to concentrate at Kingston, and Lt.-Col. W. H. Bonnycastle, of the Royal Engineers, was sent in advance to procure a suitable building for a military hospital. On his advice the building recently completed for a General Hospital was used as a military hospital from May, 1838, until June, 1839. For a time the doors were closed. In 1841, at the request of Lord Sydenham, the building was modified to some extent and the United Legislature of Canada met there until 1844. The damage done the building by the noisy legislators was assessed at £236 10s., which amount was paid over to the commissioners of the hospital in 1845.

"The Female Benevolent Society" now asked for and received permission to send their sick indigents to the hospital, and a small grant was made by the legislature towards their maintenance. From that time to the present over forty thousand patients have been treated in the institution.

The hospital at present has 200 beds, divided about as follows:

Infectious department (diphtheria, scarlet fever, measles, etc.), 40; obstetrical and gynaecological, 30; private rooms (general), 25; general wards, including "shacks" for tuberculous patients, the balance.

Last year there were treated in the institution 1,470 interns and 1,200 externs.

The main operating theatre is a modern semi-detached structure—the gift of the late Dr. K. N. Fenwick. His untimely end came but a few months after its completion.

The floor is of slate and the surrounding wall of marble. It is lighted from the ceiling and has a seating capacity of 100. Adjoining, and of easy access, are the anaesthetic, the recovery, and the instrument and x ray rooms. The clinics are held in this amphitheatre, or in the wards, from 9 to 12 each morning. There is also a private operating room in the main building.

The gynaecological building has a small but well-appointed operating room of its own.

2. The Hotel Dieu.

The Hotel Dieu is one of the best conducted hospitals in the province. It has but a hundred beds, but these are always occupied. There were 1475 patients admitted to the wards of this institution last year.

About two years ago, a new surgical amphitheatre was erected, and it would be difficult to imagine anything more nearly perfect. The floor is of glass and all basins have pedal action. It has a seating capacity of 100. The clinics are held in the morning. The sterilizing room, one of a suite of three adjoining the operating threatre, is equipped with all the modern sterilizing apparatus, both for instruments and dressings.

While the work of this institution is primarily the relief of suffering, every faculty is afforded the earnest student in the prosecution of his studies.

LONDON.

1. The Victoria Hospital.

In 1899, the London General Hospital was completely rebuilt and the name changed to the Victoria Hospital. It contains 170 beds. It is the official hospital of the City of London and the County of Middlesex, and draws its cases from a population of 100,000. Patients also come from all the Western Counties. The wards are large, well-lighted, and ventilated. The operating rooms are of the most modern character and meet all the requirements of present day surgery. The public operating room is so arranged that all the students can see the details of the various operations.

2. St. Joseph's Hospital.

This hospital has been very much enlarged. It has a new and well equipped operating room. There is accommodation for at least 100 patients.

3. The London Asylum.

Students have access to this institution, which at present contains over a thousand patients.

4. Medical Charities.

There are a number of medical charities in the city which afford much material for practical instruction. The advanced students have the privilege of attending at these institutions. The principal charities are: Mount Hope Orphan Asylum, the Protestant Orphan Home, the Convalescent Home, and the Aged Peoples' Home.

5. Obstetric Wards.

There are maternity wards in the Victoria and St. Joseph's hospitals.

A special feature of the clinical teaching is that it is given to small classes. By this means, the students are brought into direct contact with the cases.

WINNIPEG.

1. The Winnipeg General Hospital.

This hospital is situated close to the Medical College, and affords the student abundant material for clinical study. There is in connection with it a Maternity Hospital, and an Isolation Hospital. There is accommodation for 215 beds. It is one of the best equipped hospitals in the Dominion. The new addition is devoted entirely to surgery and has an excellent operating room, with well arranged seating, whereby the students can view operations to great advantage.

2. St. Boniface Hospital.

This hospital has 200 beds, 160 being general and 40 for isolation cases. Every opportunity is afforded students for clinical study.

FEDERATION PLAN FINALLY PASSES.

The Ontario Government has placed its stamp of approval on the proposal to federate Trinity and Toronto Universities. At a meeting of the Cabinet, an order-in-Council was passed approving of the terms of the agreement upon which Trinity will be taken into the fold of the State university. The Cabinet also authorized the issuing of the necessary proclamation making the order effective.

UNIVERSITY OF TORONTO SEEKING BETTER HOSPITAL FACILITIES.

The medical faculty of the University of Toronto and the boards of trustees of the principal hospitals are at present negotiating with a view to arranging for accommodation and regulations to secure better hospital facilities for medical education. A need along these lines has been felt for some years and the union of the two medical faculties has paved the way for concerted action by the University and the teaching branch of the medical profession. A committee was appointed consisting of the Vice-Chancellor, Chief Justice Moss, President Loudon, Mr. Irving Cameron, Dr. Primrose, Dean Reeve, Dr. Bingham, Dr. McPhedran and Dr. J. F. W. Ross (Chairman). They drew up a statement embodying the changes and improvements desired and presented them to the boards of the General and St. Michael's Hospitals. At the meeting with the Board of the General Hospital interest in the proceedings was increased by the presence of Mr. Rose Bradford, an eminent physician of the University College, London, England, who addressed the board upon hospital work in London.

The proposals dealing first with the subjects of house staffs were, briefly, as follows:—That the house staff be large enough to carry on the work efficiently, that one member of each staff be detailed to do clinical laboratory work exclusively, that the staffs be divided into seniors and juniors, and the seniors retire every six months; that the duties of the house staffs be defined by new rules, that no fees be paid any members of the house staffs by physicians or patients, that each hospital board should appoint an official anaesthetist.

Then with a view to increasing the material for clinics, it was urged that all patients in public wards be placed in charge of a clinical staff. The material at present available, the committee stated, for bedside clinics, was deplorably limited. It was proposed that a committee be appointed by each staff to supervise hospital admissions.

Closely related to the question of clinical material is the out-patient department. The report stated that a committee of the faculty recently visited New York, Boston, Philadelphia, Chicago, Montreal and Baltimore, and reported fully on the value of well equipped out-patient departments. The out-patient departments connected with the Toronto General and St. Michael's Hospital lack proper organization, and must be considered as valueless in their present state. In the General Hospital the rooms are too small, the facilities for handling patients are too meagre, and the heating in winter is so poor that the health of the patients, the students and the staff is endangered thereby.

Better facilities for the study of pathology were asked by the taking of pains to increase the number of autopsis and the keeping of proper records.

In the Children's Hospital it is said nearly all the regulations asked for have been in force for a considerable time.

SANMETTO IN ENLARGED PROSTATE COMPLICATED WITH CYSTITIS.

Dr. J. M. Minick, of Wichita, Kansas, President of the Kansas State Board of Health, reporting his experience with Sanmetto, says: "I do not explain the action of Sanmetto from any ulterior motive or for publication any further than I believe it is a god-send to men who are afflicted with enlarged prostate gland complicated with chronic cystitis, with a constant desire to micturate, especially at night."

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EDITORIAL.

THE ETIOLOGY OF CANCER.

Until the etiology of a disease has been ascertained, all attempts at treatment are empirical When the etiology has been discovered, the empirical element may not disappear from the treatment, but it then has a definite object in view, the finding of some agent, or means, of dealing with the disease from the standpoint of its origin. This is especially true of cancer. The etiology has not been yet revealed, and all we know from the many efforts at curing the disease, is that early and thorough removal alone yields any chance of saving the patient from the ravages of the disease. So far this is all that can be done. If, however, it was known that the etiological factor in carcinoma is some form of living organism, vegetable or animal, and that it had been isolated, so as to study its life habits; or, that it is some degenerative disease that is set up in the epithelial tissues, perhaps of some chronic imflammatory nature, and the result of irritation or traumatism; or, that it is a neoplasm, arising from some new activity in the cells of the past, whether embryonic, or not or, that it is due, in some way, to the loss of nerve control over the tissues of the part affected, then a definite step would have been taken onwards.

Reasoning by analogy, there is strong evidence for regarding the etiology of cancer as some form of living infection. There is nothing known in pathology to justify the theory that it is of a nervous origin. This may be safely and definitely set aside. It cannot be regarded as a growth. There are wanting the features of growth or hypertrophy of tissue. It is quite true there may be an increase in the size of the part; but this is always accompanied by the certain tendency to break down and ulcerate and necrose. There is no form of disease which acts thus, unless there be a parasite, or living organism, present. True growth of tissue, whether embryonic or developed, does not show these characteristics. On the other hand, there is no ground for supposing that the cause is some form of chronic inflammation, apart from an organism.

There is absolutely no warrant for the theory that some injury to the part gives rise to a chronic inflammation, with changes in the

arrangement of the histological elements of the part, and finally leading to the breaking down of these elements, unless there be some activity at work that has a vital continuity about it. An inflammation, without a germ, does not infect a distant part, nor cause destruction of tissue as is the case in cancer.

Clinical reasoning alone can sometimes form a strong chain ; and in the case of cancer, this chain would appear to be capable of standing the strain put upon it. In the case of syphilis, the germ enters at the seat of the chancre, and in due time the adjacent glands become involved, and later the entire health suffers. Let the tubercular bacillus find an entry, by way of the tonsil, and subsequently the cervical glands will caseate. In leprosy there is a point of entry, and thence it spreads, hither and thither, throughout the body.

In the case of cancer, injury, improper diet, habits of life, irritation of the part, may play an important rôle in the etiology of the disease ; but only as an associated etiology, not the real etiology. Excise the seat of infection in syphilis, in leprosy, and in tuberculosis, while it is still local, and there is a time when such is the case, and you have an end of these dread diseases. Excise cancer at a time while it is still local, and the best clinical experience of the world has proven that a cure is possible.

But allow cancer to have its way, and watch the picture as it gradually developes on the canvass. There is a local disease ; some enlargement of the part, perhaps ; an extension to the glands in the vicinity ; the appearance of general contamination and poisoning of the whole body ; the presence of temperature changes ; and the almost complete failure of nature to arrest the process. It would seem, in the face of all the facts, that, on clinical grounds alone, there is no other possible view than that of a contagium vivum as the cause of cancer. The arguments that are now being set up against this view were set up against the germ etiology of leprosy, syphilis, and tuberculosis.

The fact that the germ has not yet been isolated does not prove that there is none. The fact that the results of inoculation experiments have not yielded much evidence, does not prove that there is no germ. These things only prove that we do not know the germ and its habits of life. But when the causes of chronic inflammation are studied, still further proof is forthcoming that cancer is something more than these. These causes are a foreign body in the tissues ; obstruction to the free exit of the secretion of a gland ; continued pressure on a part ; deposits from the blood, as in gout ; states of the blood, as rheumatism ; some morbid material, as in syphilis ; and tubercle. These are not, excepting the two latter, the processes we can discover in cancer.

On the matter of ulceration, a number of causes are readily detected. Among these may be mentioned some fault in the tissue, a deranged condition of the circulation, disturbed innervation, continued and repeated irritation, tension or local conditions in a sore, general conditions of health as diabetes, or scurvy. Here again it can be boldly affirmed that the above causes for ulceration, sloughing, and necrosis of tissue are absent when these processes are due to cancerous disease. There must be something more than the above causes: and that something more, as in tubercle, syphilis, and leprosy, will likely be found to be an organism. Further evidence of the microbic origin of cancer may be found in the cases where infection seems to play a part. The upper lip has been infected from the lower, one labium from the other, the lower part of the peritoneal cavity from the upper by fragments breaking off and falling down, the penis from a cancerous uterus, inoculation of one animal from another, the opposing wall of the urinary bladder from the other wall, and instances of attendants and surgeons contracting the disease. Then again there is the evidence to be deduced from the fact that some localities yield many cases of cancer. This cannot be a mere coincidence. There must be some endemic cause, and it is hard to imagine any other than a micro-organism. A strong case has been made out for some degree of contagiousness, and endemic nature. The only possible explanation for all these facts is that cancer is microbic in origin. It was once argued that tuberculosis, leprosy, &c., were not microbic. We know now that they are.

SYPHILIS IN RELATION TO ATAXIA, DEMENTIA PARALYTICA, AND ANEURISM.

Fournier, in 1876, showed in a most convincing manner the close relationship existing between syphilis and locomotor ataxy. Gowers and Erb followed with similar proofs in 1879, to the effect that a very large percentage of the cases of ataxia were preceded by syphilis. It is now proven beyond a doubt that a definite history of syphilis can be obtained in at least 80 per cent. of all cases of tabes dorsalis. Of the remaining 20 per cent., while no history of syphilis can be discovered, there can be traced the risk of contracting syphilis, as the patients have had gonorrhoea, or some form of venereal sore, or the exposure to the disease because of the admission of sexual intercourse, in 17 per cent. Thus there is left only 3 per cent. of all ataxies, in whom there is no history either of syphilis, or exposure to its contraction in the ordinary way. We all know that there are accidental and inherited cases, where the existence

of the infection is wholly unknown to the patients; and, further, that there are cases that run a very concealed, or larvata course. Moreover, it has been determined that inherited syphilis is the sole cause of the juvenile form of locomotor ataxy. From these facts, it may be said that syphilis is almost, if not quite, the entire factor in the etiology of the disease. But it should be borne in mind that ataxy is not due to a syphilitic lesion; but to a post syphilitic, or para-syphilitic, degeneration.

Turning to general paralysis of the insane, or dementia paralytica, there is found the same array of facts to prove the causative relationship of syphilis to the disease. Dr. F. W. Mott has found a distinct history of syphilis in 80 per cent. of his cases. David Ferrier, after a wide experience, states that he regards it as always of syphilitic origin. Dr. Wiglesworth claims it to be by far the most important cause. Krafft-Ebing inoculated 8 cases of general paralysis, who showed no signs of syphilis, with the virus of syphilis; and, though he kept them under observation for 180 days, none of them contracted the disease, proving prior immunity. When we turn again to the juvenile form of general paralysis, it is discovered that nearly every case gives a history that goes to establish the relationship of syphilis. Here, as in locomoter ataxy, the possibility of concealed syphilis must be recognized. Krafft-Ebing's 8 cases must be borne in mind. These cases yielded no signs, and, yet, careful attempts at inoculation with syphilitic virus failed. The doctrine of civilization and syphilization as stated by Krafft-Ebing is well nigh universal. Syphilis is common enough among savages, and without general paralysis. On the other hand, civilization alone without syphilization appears to be incapable of causing the disease. Syphilis among the civilized may therefore be taken to be the real etiology of that cruel and relentless disease—dementia paralytica.

In the matter of aneurism it has been shown that a clear history of syphilis can be made out in at least 80 per cent. of the cases. The investigations of Malmsten and Satterthwaite abundantly vertify this.

It would appear from the study of the above three diseases, that in about 20 per cent. of them, a history of syphilis cannot be made out with certainity. On this point, it is well to remember the words of that eminent dermatologist, Radcliffe Crocker. He states that in only 80 per cent. of absolutely certain syphilitic skin diseases could he obtain a history of infection. Other high authorities also state that of undoubted cases of brain syphilis, a clear history of syphilis cannot be obtained in more than 80 per cent. There are then certain conditions of certainly syphilitic origin, for which careful search only reveals infection to the

extent of 80 per cent. It is safe to conclude, that about 20 per cent. of infected persons, yield a very obscure history, and few, or no signs.

With regard to the three diseases, locomoter ataxy, dementia paralytica, and aneurism, it may be said that syphilis is almost the sole cause. The fact that we can neither obtain a history of infection, nor discover signs, does not exclude this cause. Krafft-Ebing's 8 cases of general paralysis. without a history, or signs, and yet immune, go a long way to settle that matter in favor of Ferrier's statement, that syphilis is *the* cause. In a recent paper in the *Edinburgh Medical Journal*, Prof. Byrom Bramwell states that he has obtained a clear history of syphilis in 75 per cent. of his cases of ataxia, and general paresis, and in 50 per cent. of his cases of aneurisms.

THE ETIOLOGY OF TUBERCULOSIS.

The time was when it was thought that heredity explained everything in connection with the causation of consumption. Then came a period when many of the most careful observers began to doubt the all sufficiency of this explanation, and began to regard the disease, both in man and the lower animals, as communicable, to some extent, from one to another. Later, in 1882, Robert Koch gave to the world his great discovery of the tubercle bacillus—the germ of the disease. From that date to the present, the opinion has been rapidly gaining ground that the disease is of an infectious nature; and, in most instances, in some way or other, is conveyed from the sick to the well—from animals to man, and vice versa.

Recently, however, there has been an effort, in high quarters, to throw doubt upon some of the views generally held upon its contagiousness. In 1901, Koch startled the medical world by declaring that tuberculosis was not communicable from man to bovine animals; and, *per contra*, from these to man. He held that it was scarcely necessary to take precautions regarding tuberculous meat and milk. These teachings stimulated investigation, and a considerable amount of reliable information is now to hand that animals can be infected by tuberculous matter from man, and that man can contract the disease from bovine sources. These investigations go to throw discredit upon the investigations of Koch and Schütz.

About two months ago, Professor Behring has announced the rather sweeping statements that the communication of pulmonary consumption to adults by contagion had not been proven; that human and bovine tuberculosis is the same disease; nearly all cases of tuberculosis are due

to the inception of the germ in infancy through milk, and that later in life these germs develope if the soil is suitable. He makes the statement that about 96 per cent. of all persons over 30 years will react to the tuberculin test, which means that nearly everyone, by that age, has been infected and has tubercles in the body. His view is that the germ is of much less consequence than the soil; for, if the resistance is sufficient, the germs will do but little harm. He declares, however, that the utmost care should be taken over all milk supplies.

But this is not the end of the confusion. Professor Ferdinand Hueppe, in the Harben Lectures, which he delivered in London during October, contends that most persons are infected at some time or other, the great majority escaping, that the germs are often found in the bodies of perfectly healthy persons, that predisposition is the most important factor, and that many made a recovery, showing the resisting power of certain persons against the germ. He contested Koch's view regarding the non-communicability of human and bovine tuberculosis. Cattle had been rendered immune to tuberculosis by being treated with bacilli of human origin. Another statement made by Professor Hueppe of great importance is that the tubercle bacillus is not an obligatory parasite, but has been cultivated outside the body on glycerinated media. If it can be shown that the bacillus can grow free in nature, outside the animal body, a new source of infection of vast importance will come before the scientific world. So far, however, the cultivation has been difficult, and the probabilities are all against the view that there is any danger, apart from infected man or animals. Professor Hueppe also contended that the germ might enter by the respiratory or digestive channels, and affect any organ of the body, attacking the *locus minoris resistentiae*. Thus, the lungs might be diseased through the digestive canal, or the glandular system through the respiratory.

The complications have been increased still further, by a recent article from the pen of H. Charlton Bastian, emeritus professor of medicine in University College, London. He takes the position that tuberculosis may arise *de novo*. He states that, "If good hygienic conditions and improved vitality will lead to the cure of the disease, then low vitality and bad hygienic conditions may have sufficed to produce it." Again he states, "We might then return to something more like the sober views that prevailed concerning the etiology of phthisis, only a few years ago, when the affection was freely recognised as generable in the individual, altogether apart from contagion, and contagion was supposed to take only a limited share in the production of the disease. This seems the more rational and most warranted view to be taken."

One of Dr. Bastain's arguments against the contagion theory is that the bacilli are found in glands, bones, joints, etc., and no clear explanation is possible as to how they got there. It is much easier and far more scientific to grant that they got into these places by means of the circulation, than to suppose that they just began there from nothing. They are found in such places, and they did not come from nothing. We fear that Dr. Bastain must be left alone with his transcendental theories.

Far nearer the truth, indeed *the truth*, are the words of Professor Osler, that tuberculosis is a case of seed and soil. Sometimes the seed falls by the wayside and perishes, sometimes it falls in stony ground and produces a weakly crop, and sometimes it falls in good soil and produces an abundant crop. In spite, therefore, of the learned arguments of Koch, Hueppe, Behring, and Bastian, it comes back to a question of seed and soil. No matter how favorable or suitable the soil may be, without the seed there can be no crop. However laudable it may be to maintain a high standard of vitality, it is absolutely obligatory to destroy the germs as they come from the infected person; and thus prevent the seed from alighting in any other person, whether of the type of the wayside, the stoney ground, or the good soil. Destroy the germ wherever found and keep on destroying it. The soil we must always have with us. It is the seed alone which we may hope to control. The world will always be full of the poor, the dirty, the weakly; but the world need not always be full of the tubercle bacilli.

HYPERCHLORHYDRIA.

Hyperchlorhydria is regarded by some eminent observers to be the most frequent gastric trouble met with in private practice. It is held by many that when 100 c. c. of gastric juice requires 20 to 40 c. c. decinormal Na OH solution to neutralize the free hydrochloric acid contained therein, during the height of digestion, it contains too much of the acid; and that if the same quantity of gastric juice requires 45 to 65 c.c. of the same sodium solution to neutralize the combined hydrochloric acid, the gastric juice contains too much combined acid.

Nervousness, chlorosis, chronic, constipation, gastric ulcer, pyloric stenosis, simple gastrectasis are the most usual causes of the severest forms of hyperchlohydria. Simple acid catarrh of the stomach, the over free use of spices, and the abuse of alcohol and tobacco must be borne in mind as causes. Among the unpleasant results of hyperchlorhydria may be mentioned gastric ulcer, painful sensations on taking food, and a progressive emaciation of the patient, and a growing nervousness.

The pain on taking food leads the sufferer to avoid one article of diet after another, until he is on the verge of starvation. In the diet of these cases, great care must be taken to avoid dieting for any one symptom. A number of high authorities, however, recommend the free use of fats.

When hyperchlorhydria is the result of some disease, or ill state of health, the treatment should be directed to this disease or condition. Its successful treatment will cause the hyperchlorhydria to disappear. As hyperchlorhydria is so often caused by chlorosis, nervousness, worry, constipation, ulcer of the stomach, gastrectasis, &c., fresh air and exercise are of much importance in the treatment of the trouble. Small doses of a mixture of bicarbonate of soda and calcium carbonate are useful for the relief of the pain. Mild natural saline waters have found much favor with some, over the stronger alkaline waters.

One authority says that the treatment must be based on the genesis of the disease. He urges a bland diet of milk and vegetables with a little egg, but no meat. For medicine, he gives magnes. ust., bismuth subnit., aa 7·5 ; ext. belladon., 0.25 : one knife pointful three times a day, one hour after meals. Gastric lavage with 1-1000 nitrate of silver, or with an alkaline water has been found very helpful. The employment of the faradic and galvanic currents have been of considerable advantage in restoring the lost tone to the gastric walls. Five to 10 grains of sodium bromide after meals find favor with some, as this treatment appears to allay the nervous disturbance so often present. Atropia, gr. $\frac{1}{200}$ may be combined with the sodium bromide.

In some of the most rebellious cases rest in bed, rectal feeding, intragastric faradization, and massage of the entire body, except the abdomen, effect a cure. Demulcent drinks are soothing to the irritable gastric mucous membrane, and lessen the flow of gastric juice. Of the demulcents that may be used, slippery elm bark is one of the best, and linseed or marshmallow combined with borax may be tried. In cases with almost complete loss of appetite, or repugnance to food, the plan of forced feeding, gavage, has been resorted to with decided advantage. The foods that may be used in this way are raw meats, eggs, milk, whey, and oils.

A method of electric treatment highly recommended is as follows: A high frequency battery is used and a metal plate placed upon the tongue and a metal bulb within the rectum. The current passes along the line of least resistance, namely, along the moist mucous membrane of the entire digestive canal. There is no pain in connection with this plan of treatment. In addition to stimulating the muscular action of the digestive tract, it decidedly lessens the secretion of hydrochloric acid.

THE ETIOLOGY AND TREATMENT OF ECLAMPSIA.

Dr. W. E. Fothergill, of Owens College, Manchester, in a recent issue of the *British Practitioner* reviews the modern literature upon this subject. To begin with, every one seems to have given up the opinion that eclampsia is due to renal disease. It is now conceded that it is caused by the circulation in the blood of some poison, or poisons. These poisons may come from one of the two sources: They may enter the blood stream by absorption from the digestive canal, or they may be due to the changes taking place in the tissues, known as metabolism. In the pregnant condition, the woman has to deal with her own and the waste products of the fœtus. Any derangement in the actions of the liver, thyroid or other glands, may throw an extra share of the defence or eliminating action upon the kidneys. They may succeed in keeping the blood clear, or they may in time become irritated and injured. Subsequent to this, the poison is left in the blood stream, together with a certain amount of urea which the injured kidneys fail to eliminate. The next phase in the case is the appearance of albumen in the urine.

Two main theories have been advanced to account for the presence of these poisons in the blood. One of these has been advocated by Drs. Müller and Albert. It is to the effect that there is an intra-uturine microbic infection causing an endo-metritis. This would account for the three features of in eclampsia, namely, the nervous symptoms, the injury to the kidneys, and the fever. On this theory there is a relationship between eclampsia and puerperal fever. The other theory has been urged by Drs. Nicholson and Hergott. This theory contends that the symptoms of the eclampsic state is best accounted for on the ground of thyroid gland inadequacy. The thyroid gland is enlarged in normal pregnancy. This normal enlargement of the thyroid gland can be removed by giving the patient thyroid gland extract. Iodothyrin favours metabolism and increases the excretion of urea. In eclampsia this is strinkingly diminished. Owing to a deficiency of iodothyrin the metabolism of nitrogenous substances stops short of the formation of urea, and at a point when the products are highly poisonous. A typical attack of eclampsia resembles the condition produced in animals by the removal of the thyroid gland.

This latter theory is borne out by the good effects of rest and a milk diet which lessen the demand for thyroid gland secretion, while on the other hand exertion and a meat diet exaggerate the tendency to eclampsia. It has been noted that many attacks of eclampsia follow the ingestion of nitrogenous foods, or over exertion. The pre-eclamptic state is marked by such features as vomiting, constipation, headache, nervous

irritability, disturbances of vision, abnormal pigmentation, high arterial tension, and diminution in the quantity of urine and urea. Later on albumen may appear. These symptoms should receive attention.

The prophylactic treatment is rest in bed, a milk diet, purgation, and the washing out of the lower bowel with copious injections. The employment of thyroid gland extract has been found very valuable. It rapidly reduces arterial tension, and increases the amount of both the urine and urea. In one case of eclampsia the writer gave 45 grains thyroid gland extract on the first day, and 35 grains on the second day. The patient then began to pass urine freely. Before the treatment began there was complete anuria. It seems that thyroid extract acts in a manner similar to morphia, veratrum viride, free bleeding, active purgation, or the introduction of saline solutions into the circulation. If the patient cannot swallow, liquor thyroidei must be injected hypodermically.

In the management of eclampsia, it seems that a general concensus of opinion favours the wet pack to pilocarpine, lavage of the bowel to croton oil, and morphia has largely taken the place of chloroform, bromides and chloral. Bleeding has increased in favour, and excellent results have followed the intra-venous injection of saline solutions, as advocated by Dr. Robert Jardine.

With regard to obstetric interference it seems that experience leads in the direction that if labour has commenced, gently aid it; but if the convulsions begin first, treat these and do not induce labour. Labour may be induced, however, as a prophylactic.

THE TREATMENT OF EPILEPSY.

The above subject was fully discussed at a recent meeting of the medical society of London, Dr. J. S. Risien Russell said, the treatment was dietetic, hygienic, medicinal, and surgical. But to apply these lines of treatment intelligently, it is very desirable, as far as possible, to obtain clear views on the etiology of each case. There are some who hold that epilepsy is due to source micro-organism. For this view there does not appear to be sufficient ground. Again, others regard the disease as due to auto-intoxication. But, against this view, we must recognize the fact that auto-intoxication must be much more common than epilepsy. There are others who regard the disease as the result of a degenerative process in the cerebral cells. There is, however, no concensus of opinion whether the degenerative changes, found in the brain of epileptics, are the cause of the attacks, or the result of the nerve

storms. There would seem to be some inherent instability in the brain cells, and, thus being present, a number of exciting causes may induce the attacks. There are no doubt some cases which are due to the irritation of some portion of the brain by pressure, or the injurious effects of some lesion caused by previous inflammation.

With regard to the diet of epileptics, there seems to be a pretty well settled opinion among those who have most to do with the treatment of these cases, that they do best when allowed very little meat. Some go the length of saying that epileptic fits are met with only among flesh eating animals. Animals and human tribes that live exclusively upon vegetable foods do not suffer from epilepsy. It is very certain that animal food should be reduced to a minimum, if not entirely excluded, from the dietary of epileptics.

Many years ago, Dr. J. Hughlings Jackson laid great stress on the importance of reducing the amount of table salt. It is a well known clinical fact that small doses of the bromides will control the disease, when the chloride of sodium is reduced, or largely withdrawn from the diet list.

There should be no compromise in the matter of alcoholic beverages. As Dr. Sims Woodhead has very clearly shown, the tendency of alcohol is to seize upon the oxygen in the blood, and so prevent oxidation of the tissues. This interferes with the nutrition of the nerve elements, and renders them less stable. This is the tendency of alcohol, whether in large or small quantities. The amount of injury is, however, in proportion to the amount of alcohol consumed, and the instability of the brain cells.

The general hygienic care of these cases is of much assistance in their treatment. Regular hours, abundance of sleep in a well ventilated room, a life in the open air, and the avoidance of excitement, are valuable aids in treatment. Epileptics have been known to induce attacks by going to the theatre, or by indulging in angry altercations with others. The last meal of the day should always be light and digestible in its character. On no account should meat, or salt be taken at this meal.

With regard to drugs it was the opinion of Drs. Tuke, Turner, Beevor, Ormerod, Langdon-Down that the bromides still hold the first place. Silver, zinc, borax, belladonna, arsenic, and digitalis have all been extensively tried; and have been found, at times, of undoubted service. But it must be admitted that a good deal of the failure, attributed to the bromides, is due to the method of its administration. The proper exhibition of the bromides in epilepsy is a matter of the most careful study. Enough must be given to control the attacks. There

does not appear to be any advantages in the bromides of camphor or strontium, over the bromides of potassium, sodium, or ammonium. In all cases of nocturnal epilepsy, a single large dose should be given an hour before bed time. When the hour at which the attacks come on can be ascertained, a dose should be given two hours in advance of them. For the status epilepticus, a hypodermic injection of morphia is very useful, but reliance ought to be placed mainly upon hyoscine hypodermically, or on chloral in large doses for rectum. The bromides must be continued for a long time. The drug is in no sense so injurious as the attacks of the disease. In cases where the bromide of potassium proves too depressing, some of the other bromides should be employed. The addition of arsenic to the bromide mixture often adds to the effectiveness of the latter and lessens some of its evil influences. If the attacks assume the hysteroid type, the combination of digitalis with the bromide is of much service. Belladonna is very useful in children, and in *petit mal.*

As to the surgical treatment of epilepsy, Sir Victor Horsley remarked it may be said that in all cases where the convulsions are localized the advantages of operative treatment should be accorded the patients. In idiopathic epilepsy the convulsions may be localized, and the area of the cortex primarily affected may in this way be possible of location. In Jacksonian epilepsy, due to injuries or growths, there is usually localizing symptoms. Surgical procedures will benefit a certain number of these cases. If the lesion to the brain is frontal, or occipital, the prospects are not good. There are a few cases of reflex epilepsy. Surgery may be able to do something for these cases by removing pressure or irritation from the affected nerve.

Dr. Fletcher Beach, calls attention to the importance of correcting all errors of refraction; and watching for causes of internal irritation, as indigestion, the presence of worms, constipation, the abuse of alcohol. He does not think it has been proven that the chlorides affect the disease, and that they cannot be withdrawn too freely, as the health will suffer. The combination of the bromides is preferred, or the ammonium bromide. When the attacks come on during the night a double dose should be given at bed time; or if they come on in the morning, a dose an hour before rising. When the bromides fail the administration of gr. v. antipyrin with them is often of much value. Meats must be reduced to the lowest amount possible. The patient should live a quiet life, and an open air employment is beneficial. Cold baths, or sponging, does good. The results of treatment in colonies are gratifying. Medicinal treatment must be kept up for at least two years after the fits have ceased.

THE CLINICAL SIGNIFICANCE OF ARTERIOSCLEROSIS.

Dr. Reginald H. Fitz, published in the *Boston Medical and Surgical Journal*, the address on this subject, which he delivered at the Hampden Medical Society. The address contains many excellent thoughts. It has long been recognized that the arteries of the brain, heart, kidneys, spleen, and extremities might show alterations similar to those found in the aorta. This knowledge has grown into the modern views of arteriosclerosis.

The disturbances produced by arteriosclerosis are due to the change in the caliber and elasticity of the arteries of the part affected. There results a loss of nutrition, which may be slow or sudden, in onset. The patient suffers from predominant affection of the brain, heart, kidneys, or extremities. It is well to recognize that there is an arterio-sclerotic encephalitis, myocarditis, or nephritis, as the prognosis may depend largely upon the basis for this arteriosclerosis.

The arteries are cordlike, resistant, tortuous with ribbed or granular surface. The tension of the pulse is high. The heart gives evidence of hypertrophy of one or both sides by an increased area of dulness, a more powerful apex beat and an accentuation of the aortic second sound, provided the aortic valve is sufficient. There may be visceral arteriosclerosis of the internal organs without the cordlike quality of the superficial arteries; and this quality of accessible arteries may be present without visceral arteriosclerosis. But it is a very significant sign, and usually indicates general arteriosclerosis. Tortuous, or ribbed, arteries are not so significant as cordlike arteries. In like manner there may be high pulse tension from other causes than arteriosclerosis. The hypertrophy of the heart and the accentuation of the aortic second sound may be absent in arteriosclerosis, or present in chronic nephritis, without arteriosclerosis.

Arteriosclerosis may be divided with three forms: the central, the peripheral, and the visceral. In the central form the aorta and the large primary branches are affected, excepting these of the heart and kidneys. The diagnosis is made from the age of the patient, and the inspection and palpation of the innominate, subclavian, carotids, femorals and iliacs. There may be a concurrent dilatation of the heart.

In peripheral arteriosclerosis the condition of the accessible arteries is the chief agency in the diagnosis. There may be severe pain and numbness in the extremities, and the muscles may be easily fatigued, or cramps induced.

The symptoms in visceral arteriosclerosis are often indefinite. There are three principal types: the cerebral, the cardiac, and the renal. Some

recognize intestinal and pancreatic types. In the cerebral type there is usually headache, vertigo, wakefulness, loss of memory, convulsions and lesions due to arterial rupture, thrombosis, or embolism. In the cardiac type there is weak heart action, palpitation, bradycardia or tachycardia, arrhythmia, angina, cardiac asthma, epiliptiform attacks, unconsciousness, passive congestion of various organs, dropsy, Cheyne-Stokes breathing, dysprosia, and finally, dilatation and heart failure. In the renal type the condition is that of chronic fibrous nephritis. Arteriosclerosis of intestinal vessels may cause pains, embolism, thrombosis, ulceration, or gangrene. In the case of the pancreas, diabetes may result. When the above visceral derangements are present, together with a sclerosed condition of the accessible arteries, a diagnosis of arteriosclerosis may be made as their cause.

There are no drugs that remove arteriosclerosis. The chief benefit of the early discovery of arteriosclerosis comes from the opportunity it gives of warning the diseased person of the necessity of a change of habits, of avoiding mental, moral and physical strain upon the blood vessels which already show signs of weakness.

AMERICAN CONGRESS ON TUBERCULOSIS.

Arrangements are being rapidly completed for a very influential gathering in October, 1904, at the World's Fair and Universal Exposition at St. Louis. Gentlemen of high standing, both lay and medical, will take part in the proceedings. A movement is also on foot for the organization of an International Congress on Tuberculosis, to be held at the same time and place. The management of the World's Fair and the United States Government are giving every assistance to these two organizations.

When one has regard to the importance of the matters that must come before such gatherings, they need few words of commendation from us. There were strong suspicions in the minds of many scientists, prior to the discovery of the bacillus tuberculosis, that consumption in some way or other was a communicable disease. These suspicions became certainties when, in 1882, Prof. R. Koch gave to the world his discovery of the bacillus. It is now proven beyond the possibility of a doubt that without the bacillus there can be no cases of tuberculosis. What the scientific world has to deal with is the bacillus, its modes of spread, its habits of life, and how it can be rendered harmless. These are the problems that will form a large portion of the deliberations of the congresses on tuberculosis. The population of the United States,

Canada, and Great Britain aggregate about 120,000,000. Taking the annual death rate at 18 per 1,000, there will be a total death loss of 2,160,000 a year, and one-eighth of this will be due to tuberculosis, or 270,000. This is a terrible loss of life from any one disease and that disease almost entirely a preventable one. It is when the death loss is thrown into such figures as the above that the importance of any movement looking towards the prevention of tuberculosis becomes so distinctly attractive. It is safe to say that each life is worth to the state at least $6,000 on an average. The loss of 270,000 lives at this estimate is a total loss of $1,620,000,000 to the United States, Canada and Great Britain. Those who are doing so much to lead the public thought towards taking steps to lessen this terrible loss of life, are doing more for these countries' wealth than the great trusts and money k ngs.

It is within the memory of the present generation that to talk of the infectious nature of consumption and to advise methods of prevention would only beget ridicule, and brand the person as a crank. The writer can recall an incident in the year 1884, when he urged such views at a large medical convention, and was regarded as visionary, being told by some that in a few years he would not hang such heavy weights on such slender threads, referring to the weakness of the arguments and proofs advanced. The threads have stood the strain and are now carrying heavier weights than was even then thought of. With proper preventive measures, there need be practically no consumption ten years hence.

THE CANADIAN MEDICAL PROTECTIVE ASSOCIATION.

A little over two years ago, at the Winnipeg meeting of the Canadian Medical Association, the Canadian Medical Protective Association was organized. Its work was endorsed at the Montreal meeting, and again this year at the London meetings of the Canadian Medical Association. Since the organization of the Canadian Medical Protective Association, it has rendered excellent service. This year, the Association has successfully defended Dr. Watts, of Moore Creek; but the costs were heavy, amounting to $252. Now the Association is engaged defending a well known practitioner for an action brought against him for tetanus following vaccination. The Association has no other source of income except the annual fee of $2.50 from its members. We shall have more to say upon this subject in our next issue. In the meantime we strongly recommend the Association to our readers.

PERSONAL AND NEWS ITEMS.

Dr. J. C. Mitchell has been appointed head of the new epileptic asylum, Woodstock.

Dr. Blackader, of McGill Medical Faculty, has returned from Saratoga much improved in health.

Dr. James Rogers, of Hamilton, and Miss Florence Atkinson, of Gananoque, were married in the latter part of October.

Dr. W. J. Robinson, formerly of Arthur, has been appointed medical health officer of Guelph, in succession to Dr. Howitt, resigned.

Dr. W. H. Gaskell, professor of physiology in Cambridge University, and also a member of the Mosely Commission, also paid a visit to Toronto.

Dr. Young, of the provincial asylum, Manitoba, has left for the east to spend a well-merited holiday. His work will be looked after by Dr. Woolard.

Dr. Charles Daniel Parfitt, of Gravenhurst, was married on 31st October, at Plainfield, N.J., to Miss Caroline, third daughter of Mr. Lewis V. Fitz Randolph, of that city.

Dr. Douglas G. McIlwraith, of Binbrook, formerly house surgeon at the Hamilton Hospital, and Miss Ida Howard, a graduate nurse of the same hospital, were quietly married on 3rd November.

Dr. Oskar Klotz, a graduate of Toronto University, and until recently house surgeon at the Ottawa Isolation Hospital, has been appointed to the fellowship of pathology at McGill University.

Dr. D. E. Mundell, a professor of Queen's Medical School, has just issued a 500-page book on "Anatomy Applied to Medicine and Surgery." The book is well illustrated by W. C. Brown, a clever student.

The ashes of the late Dr. Donald McLean, of Detroit, cremated after his decease, were deposited in Cataraqui cemetery on Saturday. A handsome monument has been erected to his memory by his wife.

Dr. Charlton, formerly medical superintendent at the Isolation Hospital, Ottawa, has been sent to Europe to conduct investigations for the Rockefeller Institute, of New York, in regard to infectious diseases and the methods of treating them.

Dr. W. W. Ogden, of Toronto, whose experience as a member of the Public School Board extends back more than 30 years, has been urged by many electors to become a candidate for the new Board of Education, and has finally consented to do so.

Dr. Law was completely vindicated as the result of Judge MacTavish's investigation into the charge made against Dr. Law, city medical officer, that he accepted a bribe of $5 from Pullan, a junk dealer, to influence his report on Pullan's premises.

Dr. Thompson, of Coboconk, received painful injuries on 1st November while driving, his vehicle being run into by a farmer's team and wagon. The mixup was a severe one, the doctor being thrown out and trampled upon while unsconscious. He is recovering.

Dr. Dixson, of Sydney, Australia, called upon Deputy Minister of Education, Mr. John Millar, recently, in search of information regarding the requirements of the practice of medicine in Ontario. The information is for the benefit of the Medical Council of Sydney.

Dr. Llewellyn H. Barker, of Chicago, was married on 22nd October to Miss Lilian Haines Halsey, daughter of the late William J. Halsey, of Chicago. The bride was given away by her brother, Dr. J. T. Halsey, of McGill University. Dr. Barker is a native of Ontario.

Dr George Ewart Wilson, who has for some time been on the house staff of physicians at Grace Hospital, has left that institution to take the George Brown memorial scholarship in medical science, and for a year he will do research work in the medical department of the University of Toronto.

Captain C. A. Hodgetts, M.D., of the army medical corps, has received his certificate conferring the position upon him of honorary associate of the Order of St. John of Jerusalem in England. The honor was granted to Captain Hodgetts in recognition of his services in connection with the Red Cross Society during the Boer war.

According to the figures prepared by the Provincial Health Department, the number of deaths from tuberculosis shows a decided failing off during the last few years, due, no doubt, to the improved sanitary regulations. The figures for the past six years are as follows.—1897, 3,154; 1898, 3,291; 1899, 3,405; 1900, 3,484; 1901, 3,243; 1902, 2,694—Total, 19,371.

The American Public Health Association recently considered the subject of infection of human beings with animal tuberculosis. In discussing the subject, Dr. Mazyck P. Ravenel, of Philadelphia, regretted the disinclination of Federal and State authorities to permit criminals condemned to death to be inoculated with the tuberculous germ in the interests of science

Professor Rose Bradford, professor of medicine in University College, London, England, who is a member of the Mosely Commission, was in the city for a few days. He was entertained by the medical faculty at luncheon in the University dining-hall. Quite a large number of prominent members of the medical profession in Toronto were present. Dr. R. A. Reeve, dean, presided.

The Students and faculty of medicine of the University of Toronto are gradually becoming settled in the new medical building. The faculty report considerable difficulty in getting everything adjusted properly to the new conditions and, as a result, they have not had the usual amount of time to devote to independent research work. It is hoped, however, that everything will be running smoothly very soon.

A deputation composed of Dr. Barrick, Eugene O'Keefe, Dr. J. E. Elliott and Dr. S. G. Thompson waited on the Board of Control of Toronto to ask that the question regarding the contribution of $50,000 by the city towards the erection of a municipal consumption sanatorium be submitted to the qualified electors in January. The board unanimously approved the submission of the question on the same terms as last year.

Premier Ross and Hon. Richard Harcourt had a discussion about university finances a short time ago with President Loudon, Dr. John Hoskin and Principal Hutton. The estimates of the university for the coming year are in the hands of the Government, and they were carefully gone over yesterday. It is understood that the university will need from $150,000 to $160,000 for its arts department, $50,000 for medicine and $40,000 for engineering.

Dr. Hodgetts, Provincial Medical Health Inspector, has returned from Kaladar, Hungerford and Tweed, where he has been examining into the smallpox outbreak. He reports that there have been 29 cases in eight houses. One death has resulted, probably due to the disease. The outbreak is supposed to have originated from a woman who visited at Dale's Corners, with her children, who had what was termed eczema. The cases have now all been isolated and everything is being done in the way of general vaccination and other precautions to prevent the spread of the disease. It is felt now that the outbreak will be easily checked.

A meeting of the Executive Committee of the Ontario Medical Library Association was held recently in Toronto to discuss a plan which the association has of obtaining a suitable building in which to establish the library. They have in view a house in Queen's Park, and it is the

intention to have on file there all current medical journals, as well as the most recent medical books. A medical reference and circulating library will also be establish there. Although there is no intention at present of forming a medical club, the house will be a gathering place for the medical fraternity. The committee in charge of the matter consists of Dr. J. F. W. Ross, President, and Dr. H. J. Hamilton, Dr. A. Macdonald, Dr. H. T. Machell, Dr. J. T. Fotheringham, Dr. W. J. Greig, Dr. H. B. Anderson, Dr. H. A. Bruce, Dr. R. A. Reeve, Dr. N. A. Powell, Dr. R. A. Pyne and Dr. A. McPhedran. The committee decided to meet again at the call of the President.

BOOK REVIEWS.

A DICTIONARY OF MEDICAL SCIENCE.

Containing a full explanation of the various subjects and terms of Anatomy, Physiology, Medical Chemistry, Pharmacy, Pharmacology, Therapeutics, Medicine, Hygiene, Dietetics, Bacteriology, Pathology, Surgery, Ophthalmology, Otology, Laryngology, Dermatology, Gynecology, Obstetrics, Pediatrics, Medical Jurisprudence, Dentistry, Veterinary Science, etc., by ROBLEY DUNGLISON, M.D., LL.D., Late Professor of Institutes of Medicine in the Jefferson Medical College of Philadelphia. New (twenty-third) edition, thoroughly revised, with the pronunciation, accentuation and derivation of the terms, by THOMAS L. STEDMAN, A.M., M.D., Member of the New York Academy of Medicine. In one magnificent imperial octavo volume of 1,224 pages, with about 600 illustrations, including 85 full-page plates, mostly in colors, with thumb-letter index. Cloth, $8.00, net; leather, $9.00, net; half morocco, $9.50, net. Lea Brothers & Co., Philadelphia and New York.

Dunglison's Medical Dictionary has been before the medical profession for seventy-five years. It has taken its place with the highest authorities on lexicography, and, especially, medical lexicography. The very name *Dunglison* is synonomous with the very best of its kind. This work is now in its twenty-third edition. From the date of first edition, each successive edition has shown the care with which it has been revised. A perusal of these many editions reveals the marvelous progress that medical science has made. Medical terms are being coined at the rate of two a day, or over two thousand since the previous edition. The definitions are models of accuracy, clearness, and brevity, and the derivations are always given. The illustrations are very superior in every way. The present edition has been brought out under the editorship of Dr. Thomas L. Stedman, who has had much experience in medical lexicography. Professor Leonard Pearson revised the veterinary terms, and Dr. H. H. Burchard those in dentistry. We can say of this work what we can say of very few—that no one can possibly be disappointed who purchases a Dunglison's Dictionary.

A TEXT-BOOK OF CLINICAL ANATOMY.

For Students and Practjoners. By Daniel N. Eisendrath, A.B., M.D., Clinical Professor of Anatomy in the Medical Department of the University of Illinois (College of Physicians and Surgeons) ; Attending Surgeon to the Cook County Hospital, Chicago, etc. Handsome octavo of 515 pages, beautifully illustrated with 153 illustrations, a number in colors. Philadelphia, New York, London : W. B. Saunders & Company, 1903. Cloth, $5.00 net ; Sheep or Half Morocco, $6,00 net.

The subject of anatomy, and especially clinical anatomy, is so closely allied to practical medicine and surgery that it is absolutely impossible for a physician or surgeon to practice his profession successfully unless he have an intimate knowledge of the human structure. In his preface the author states that the primary object of his work is to serve as a bridge for both the practitioner and the student from descriptive anatomy, as it is usually taught in the first two years of a medical course, to its daily application at the bedside, in the clinic, or in the operating room. The entire subject is discussed with a thoroughness and precision that springs from experience. The method of illustrating the subject is novel, special attention having been given to surface anatomy. The illustrations themselves are the result of a great deal of painstaking study, outlines having been marked upon a normal artist model, and then photographed. They are reproduced in the highest style of art, and show far better than any we have seen the relation of anatomic structures from a clinical standpoint, presenting to the practitioner a picture as met at the bedside, with the skin covering the tissue. The work is indeed magnificent text, illustrations, paper, typography, and binding being of unusual excellence.

AIDS TO PHYSIOLOGY.

Aids to Physiology by Peyton T. B. Beale, F.R.C.S. Eng., Examiners in Physiology to the Society of Apothecaries ; Lecturer in Physiology and Histology, Women's Department, King's College ; Demonstrator of Histology (late Physiology) King's College, London. Bailliére, Tindall & Cox, 8 Henrietta Street, Covent Garden, London ; 16 Lincoln Place, Dublin. 1903. Price, paper, 3 shillings ; cloth, 3 shillings and 6 pence.

This little book of 240 pages is one of the well-known aid series of Messrs. Bailliére, Tindall and Cox. This is an entirely new book, though based on the work of Dr. Lowne in the same series, and issued some years ago. This is an excellent little book. We have examined it with much care, and can speak of it in terms of high praise. Though brief, it is not dry, but, on the contrary, quite interesting. It is worthy of a wide circulation. It would also be an excellent book for nurses and teachers to study, as it is much better than many of the small manuals in use.

A TEXT-BOOK OF OBSTETRICS.

Fourth Edition, Enlarged and Thoroughly Revised.

By Barton Cooke Hirst, M.D., Professor of Obstetrics in the University of Pennsylvania. Handsome octavo, 900 pages, with 746 illustations, 39 of them in colors. Philadelphia, New York, London: W. B. Saunders & Company, 1903. Cloth, $5.00 net; Sheep or Half Morocco, $6.00 net.

In revising this work for this edition, the author has spared no pains to make the book reflect the latest knowledge on the subject. He has even described and illustrated the method of using the "Neumann-Ehrenfest Kliseometer." His perfect familiarity and extensive experience with diseases of women is shown in the careful and minute manner in which he describes the various methods of treatment. As most all the diseases of women are the consequences or complications of childbirth, their preventive treatment at least is in the hands of the obstetrician, and the physician in general practice must be equally well informed in both branches of gynecology. The specialist in obstetrics must be an expert in the surgical treatment of all diseases of women. Even a specialist who confines his work entirely to this treatment, must at least have served a long apprenticeship in practical obstetrics, and have mastered its science to be adequately prepared for his work. From the glimpse we have obtained of Dr. Hirst's knowledge of diseases of women, we wait anxiously for his new work on that subject. In this present work every page has been altered and bettered in some way. More attention has been given than in the previous editions to the diseases of the genital organs associated with or following childbirth, and this we think, is an excellent improvement. Many of the old illustrations have been replaced by better ones, and there have been added besides a number entirely new. The work treats the subject from a clinical standpoint, the author ever keeping in mind that the aim of all medical literature is to cure.

HOME NURSING.

By Barnard Myers, M. D., C. M, M.R.C.S., L.R.C.P., etc.. Lecturer and Surgeon to St. John Ambulance Association. London: Bailliére, Tindall and Cox, 8, Henrietta St. Covent Garden, 1903. Price 2/6 net.

This is an exceedingly pretty little book; and it is as useful as it is pretty. Such a book should be in every home. It would be a boon to the sick were the knowledge about the nursing of them obtained from such a book, rather than from some of the unreliable ones afloat in the market. We cannot speak too highly of it for the purpose for which it is intended.

AMERICAN TEXT-BOOK OF SURGERY.

Fourth Edition, Thoroughly Revised and Greatly Enlarged.

For Practioners and Students. Edited by William W. Keen, M.D., LL.D., F. R. C. S., (Hon.), Professor of the Principles of Surgery and of Clinical Surgery, Jefferson Medical College, Philadelphia; and J. William White, M.D., John Rhea Barton Professor of Surgery, University of Pennsylvania, Philadelphia. Fourth edition, thoroughly revised and greatly enlarged. Handsome octavo of 1363 pages, with 551 text-illustrations and 39 full-page plates, many in colors. Philadelphia, New York, London: W. B. Saunders & Company, 1903. Cloth, $7.00 net; Sheep or Half Morocco, $8.00 net.

Of the three former editions of this work nearly 40,000 copies have been disposed of. Its sale, indeed, has been the wonder of the medical publishing world. In this present edition every chapter has been extensively modified, and many of them have been partially, and some entirely, rewritten. Notably among such chapters are those on Surgical Bacteriology, Tumors, the Osseous System, Orthopedic Surgery, the Surgery of the Nerves, the Joints, the Abdomen, etc. The most recent researches of Monks on the Intestines, Crile and Cushing on Shock and Blood Pressure, Matas on Neural Infiltration and Aneurysm, Edebohls on Renal Decortication, etc., have been included. The use of paraffine in nasal deformities, the methods of spinal and local anesthesia, and the newer anesthetics have also been described. And this is but an illustration of the completeness and thoroughness of the entire work.

Besides the extensive revision and amplification of the old matter, there have been added six new chapters of the utmost importance, written by men whose positions and experience especially fit them to speak with authority. These chapters are Military Surgery, Naval Surgery, Tropical Surgery, Examination of the Blood, Immunity, and Surgery of the Pancreas. Though there was a brief chapter on the Pancreas in the third edition, in this present edition it has been expanded so greatly that it really is wholly new, the modern surgery of the Pancreas having been created since the last edition. A number of the old illustrations have been replaced by better ones, and, in addition, there have been added a number entirely new. In fact, we know of no single volume work that is its superior in the expounding of the advanced and practical principles of modern surgery.

THE MEDICAL NEWS VISITING LIST.

The Medical News Visiting List for 1904 is to hand. It is bound in limp leather, containing pocket, and many very useful tables. It can be recommended to all requiring a pocket visiting list. Price, $1.25.

PROGRESSIVE MEDICINE.

A quaterly Digest of Advances, Discoveries and Improvements in the Medical and Surgical Sciences. Edited by Hobart Amory Hare, M.D., Professor of Therapeutics and Materia Medica in the Jefferson Medical College of Philadelphia, &c. ; assisted by H. R. M. Landis, M.D., Assistant Physician to the Out-Patient Medical Department of the Jefferson Medical College Hospital. Vol. III., September, 1903. Diseases of the Thorax and its Viscera, including the Heart, Lungs, and Blood Vessels—Dermatology and Syphilis—Diseases of the Nervous System—Obstetrics. Lea Brothers & Co., Philadelphia and New York. Price, $2.50.

The contributors to this volume are William Ewart, M.D., F.R.C.P., of London; William S. Gottheil, M.D., of New York; Richard C. Norris, M.D., of Philadelphia, and William G. Spiller, M.D., of Philadelphia. Dr. Ewart takes the section on diseases of the thorax; Dr. Gottheil, diseases of the skin and syphilis; Dr. W. G. Spiller, diseases of the nervous system; and Dr. R. C. Norris, obstetrics. In these sections the progress of the quarter is carefully and fully reviewed. The present volume is well illustrated, and is a fit companion for the others in this excellent series.

A TEXT-BOOK OF OPERATIVE SURGERY.

Covering the Surgical Anatomy and Operative Technic Involved in the Operations of General Surgery. Written for Students and Practitioners. By Warren Stone Bickham, Phar. M., M.D., Assistant Instructor in Operative Surgery, College of Physicians and Surgeons, New York; Late Visiting Surgeon to Charity Hospital, New Orleans, etc. Handsome octavo of 984 pages, with 559 illustrations, entirely original. Philadelphia, New York, London: W. B. Saunders & Company, 1903. Cloth, $6.00 net; Sheep or Half Morocco, $7.00 net.

This work completely covers the surgical anatomy and operative technic involved in the operations of general surgery. It is constructed on thoroughly new lines, the discussion of the subject being remarkably systematized and arranged in a manner entirely original. A feature of the work to which we would call especial attention, and for which alone it is well worth the price, is the wealth of magnificent illustrations. There are 559 of them, all entirely original. They depict the progressive steps in the various operations detailed with unusual clearness, and at the same time represent the highest artistic excellence. The text is fully abreast of the latest advances in surgery, all the recent improvements along the line of technic being adequately discussed. Another feature distinguishing it from other works on operative surgery, is the treatment of the anatomic side of the subject in connection with the operative technic. The illustrations will be found of particular assistance in this connection, the muscles, bones, etc., being clearly indicated, together with the lines of incision. It is a magnificent work, and we have yet to see its equal.

A TEXT-BOOK UPON THE PATHOGENIC BACTERIA.

Fourth Edition, Rewritten and Enlarged.

For Students of medicine and Physicians. By Joseph McFarland, M.D., Professor of Pathology and Bacteriology in the Medico-Chirurgical College, Philadelphia; Pathologist to the Philadelphia Hospital and to the Medico-Chirurgical Hospital, Philadelphia. Handsome octavo volume of 629 pages, fully illustrated, a number in colors. Philadelphia, New York, London: W B. Saunders & Company, 1903. Cloth, $3.50 net.

This work gives a concise description of the technical procedures requisite in the study of bacteriology, a brief account of the life histories of the important pathogenic bacteria, and sufficient description of the pathologic lesions accompanying micro-organismal invasions to give an idea of the origin of symptoms and the causes of death. Although but a short time has elapsed since the appearance of the previous edition, such rapid strides have been made in the subject of bacteriology, especially in its relation to pathology, that the author deemed it necessary to rewrite the work entirely. All the old matter has been eliminated, much new matter is in evidence, and, in fact, the subjects treated have been brought precisely down to date. What impressed us most were the chapters upon Infection and Immunity. All the new facts recently added to our knowledge of these subjects can here be found. The value of the work as a book of reference has been materially increased by the introduction of a large number of references to bacteriologic literature. These have been thoughtfully chosen, and, in nearly all cases, give the sources of the original descriptions of the micro-organisms treated, and the important methods described. Another valuable addition is a bibliographic index containing the names of over 600 authors. Altogether the work in its new edition is very commendable, and practitioners and students will find it of unusual value.

HENDERSON'S LESSONS ON THE EYE.

Lessons on the Eye for Undergraduate Students. By Frank L. Henderson, M.D. Third Edition. Philadelphia: P. Blakiston's Son & Co. Toronto: Chandler and Massey. Price, $1.50.

This is an excellent little manual for students and for general practitioners desiring some knowledge of the eye and its diseases. It is not intended as a serious contribution to ophthalmic literature. The illustrations are good, especially in the anatomical section. The chapter on therapeutics is up-to-date, and deals with the newer ophthalmic agents, holecain euthalmin, scopalamin, trikresol protargol, argyrol and other substances in a plain and comprehensible manner.

ELECTRO-THERAPEUTICS AND RADIOGRAPHY.

A Manual of Electro-Static Modes of Application, Therapeutics, Radiography, and Radiotherapy. Second Edition. By William Benham Snow, M D., Professor of Electro-Therapeutics and Radiography in the New York School of Physical Therapeutics, &c., &c. New York: A. L. Chatterton & Co. Price, cloth, $3.00.

The literature on electric treatment and the use of the x-rays is rapidly increasing. It is a very important branch of medical science. The work of Dr. Snow is well written, and unusually well illustrated. The text matter is carefully prepared and gives a clear account of the place occupied by electro-therapeutics and radio-therapeutics. The book will well repay careful study.

A TEXT-BOOK OF PATHOLOGY.

Fourth Edition, Thoroughly Revised and Enlarged.

A Text-Book of Pathology. By ALFRED STENGEL, M.D., Professor of Clinical Medicine in the University of Pennsylvania. Octavo volume of 933 pages, with 394 text-illustrations, many in colors, and 7 full-page colored plates. Philadelphia, New York, London: W. B. SAUNDERS & COMPANY, 1903. Cloth, $5.00 net; Sheep or Half Morocco, $6.00 net.

In this work the practical application of pathologic facts to clinical medicine is considered more fully than is customary in works on pathology. While the subject of pathology is treated in the broadest way consistent with the size of the book, a successful effort has been made to present the subject from a clinician's point of view. In the second part of the work, the pathology of individual organs and tissues is treated systematically and quite fully under subheadings that clearly indicate the subject matter to be found on each page, In this edition the section dealing with general pathology has naturally received the greatest care and the most extensive revision. Several of the important chapters have been practically rewritten. Among the subjects that have received the greatest revision are: Ehrlich's Theory of Immunity and allied process; Inflammation; The Bacterial Diseases, including Typhoid Fever, Tuberculosis, Yellow Fever, and Dysentery; and Diseases of the Blood. In the second part of the book that treating on special pathology—the revision has also been considerable, so that this part likewise represents the latest advances in the subject of pathology. A very useful addition to the book is that of an Appendix, treating of the Technic of Pathologic Methods, and giving briefly the most important methods at present in use for the study of pathology; including, however, only those methods that are unquestionably practicable. Many new illustrations, including ten excellent plates, have also been added, and some of the old replaced by new ones. We specially recommend the book to students and practitioners, as we believe it is one of the best we have seen.

SWANZY'S HANDBOOK OF DISEASES OF THE EYE.

Handbook of the Diseases of the Eye and Their Treatment. By Henry R. Swanzy, A.M., M.B., F.R.C.S.I., Dublin. Eighth Edition. Philadelphia: P. Blakiston's Son & Co. 1903. Toronto: Chandler and Massey. Price, $2.50.

Swanzy's well known book makes its appearance in an eighth edition, thoroughly revised and with many new chapters. A description of lymphangoides of the eyelids, Pfluger's method of tarsoraphia, the use of the magnet for foreign bodies, Kronleins temporary resection of the outer wall of the orbit for orbital tumours, together with descriptions of grating keratitis, keratitis aspergillina, and recurrent abrasions of the cornea, constitute the more important additions to the book. The chapter on the orbital muscles, and also that on focal brain disease, are particularly good. We can recommend the book to students and practioners, although, as is usual with English books, the newer therapeutics is almost entirely wanting. Sulphate of zinc and nitrate of silver figure largely, while grattage, protargol, and dionin are conspicuous by their absence.

THE PHYSICIANS POCKET ACCOUNT BOOK.

An Account Book for Professional Services. By J. J. Taylor, M. D. Published by the Medical, 4105 Walnut St., Philadelphia.

This is a unique pocket book well bound in limp leather. It is a perfect ledger and day book. In it a doctor can keep his accounts and in an instant turn to any account and find out in a glance how it stands. It contains an index, a portion for balances, a section for addresses, and a main part for accounts. The service is entered with the charge. There is a column for payments. In this way a docter does all his book-keeping when he makes his visits, or receives payments. It is well worthy of a trial.

OBSTETRIC NURSING.

A Handbook of Obstetric Nursing for Nurses, Students, and Mothers. By Anna M. Fullerton, M.D. Sixth Edition. Illustrated. Philadelphia: P. Blakiston's Son & Co. Toronto: Messrs. Chandler and Massey. Price $1.00.

Dr. Anna Fullerton has long been known an able teacher on nursing, gynæcology, and obstetrics. She has held a number of very important and responsible positions. Her books are now well known and require no introduction. The present edition is thoroughly up-to-date, and should be in the hands of every one who does obstetric nursing. It might be read with much profit by medical students, or recent graduates.

MANUAL OF THE DISEASES OF THE EYE FOR STUDENTS AND GENERAL PRACTITIONERS.

By Charles H. May, M. D., Chief of clinic and instructor in oppthalmology, college of physicians and surgeons, medical department Columbia University, New York, 1890-1903; oppthalmic surgeon to the French Hospital, New York; consulting oppthalmologist to the Red Cross hospital, New York; adjunct oppthalmic surgeon to Mt. Sinia hospital, New York, etc., third edition, revised with 275 original illustrations, including 16 plates with 36 colored figures. Publishers: Wm. Wood & Co., New York.

A book that reaches its third edition in three years and has been reprinted twice within that time must bear all the elements to make it valuable as a medical work. Many books are written on ophthalmology especially intended for final year students and general practitioners. Many are failures because they are too large and offer too much for the student to digest, others are failures because in attempting to make a small book they omit too much. This book seems to have taken the middle course. Those diseases seen frequently in general practice are fully taken up, while the rarer conditions are given but very little space. The author has aimed at being very practical. Illustrations showing exactly how to examine the conjunctiva and retro-tarsal folds add very materially to the student's knowledge. Very minute instructions are given showing how an eye case should be examined, every little point is clearly brought out, and how to estimate vision is made much plainer than usual. A number of colored plates showing various conditions of the eye grounds are of decided value. In connection with lacrimonasal obstruction no mention is made of the desirability of teaching the patient how to probe his own tear duct. This adds materially to the success of many cases where long continued probing is essential. Also, in cases of catarrhal conjunctivitis, nasal and nasopharyngeal catarrh seem to have a relationship the author has omitted to mention. The author speaks very lightly of antitoxine in Diphtheria conjunctiviti's, solutions of Quinine are not referred to. The treatment of Trachoma is fully given and is enhanced very materially by full page illustrations, showing how to use the expression forceps. He uses for this operation a general anaesthetic, in children and neurotic females this may be necessary, otherwise it is not desirable. The chapter at the end of the book on ocular therapeutics and general rules for eye operations is excellent, concise and practical. This book is undoubtedly the best of the smaller works on ophthalmology and one from which all general practitioners will find great assistance.

MISCELLANEOUS.

THE MILD TREATMENT OF OBSTRUCTIVE DYSMENORRHŒA.

Relief from uterine congestion and a stimulation to increased activity by the mild method of medication without recourse to dilatation and curettage, is a *desideratum* which presents itself to every practitioner.

The congestion of the uterus, uterine and intestinal colic, hysteria and other symptoms, are common events. Menstrual pains are considered to be one of the inevitable wrongs of women. Of all the disturbances which are not necessarily fatal, perhaps amenorrhœa and dysmenorrhœa are the most demoralizing mentally and physically, and cause the practitioner more annoyance, owing to the idiosyncracies which they are obliged to combat.

Treatment of these disturbances is, of course, always dependent upon the physical condition of the patient. Surgical measures are to be deplored, as a noted physician once said, "God never intended the uterine canal to be opened, except by nature," and most physicians will agree that surgical intervention is likely to cause subsequent and long-continued weakness.

The administration of morphine or other sedatives or narcotics, or the use of alcohol, may be followed by habits, and even the usual purgation will interfere with the secretions, to say nothing of the effect of the opiate.

Of all the remedies for uterine obstructions, phenalgin is recognized to be the best. It excites ordinary secretions, induces loose movements of the bowels, opens the emunctories generally, and at the same time relieves the pain. The heart's action is slightly stimulated, but with no after depression. The therapeutic effect of phenalgin might be said to be an eliminant, analgesic, which is never followed by a habit.

In no other drug have we these conditions. It is advisable to give phenalgin in doses of five grains three times a day for two days before the expected period, and just prior to the time, take two doses of ten grains each at intervals of four hours.

VERONAL.

This is a new hypnotic introduced by E. Merck, of Darmstadt. It is put up in tablet form of gr. 8 and so made that the tablets can be divided, rendering it an easy matter to give 4, 8 or 12 grains. Repeated trials have shown that Veronal is a useful hypnotic.

A VALUABLE AUXILIARY IN THE TREATMENT OF PNEUMONIA.

Pneumonia is nowadays considered a general infectious disease due to a special germ, and not, as was formerly believed, a local condition resulting from exposure to cold. It is therefore of the utmost importance that once it appears in the household, every precaution should be taken to prevent its spread to other members of the family. As the germ is carried through the air, this cannot be accomplished by fluid disinfectants; an unirritating and non-poisonous antiseptic which is sufficiently powerful to destroy the infection and yet can be freely breathed by the patient is required. There is only one safe and efficient agent of this kind, and that is vapo-cresolene. Experiments by a member of the Pathological Department of Yale University have demonstrated its high germicidal power. Its vapor permeates the air of the sick-room, destroys the infection at its source, and when inhaled by the patient allays cough and irritation in the air-passages, promotes expectoration, and thus aids materially in bringing about recovery.

QUICK AND SURE AND TIME TRIED.

No doubt many of our doctor friends will recognize in the following, from Chas B. Forsyth, M.D. (Bellevue Hospital Medical College, New York City), dated Alexandria Bay, N.Y., January 6th, 1903, an expression which will, in many instances, recall their own experience. He says: "I can say no more than that I have used Antikamnia Tablets since I began practising medicine. Several times I have switched to other preparations, but I invariably come back to Antikamnia Tablets when I want quick and sure results."

The Antikamnia Chemical Company, St. Louis, Mo., is an old and responsible concern, and any of their medicinal specialties may be depended upon to be just as represented. The latest additions to their list of preparations are "Antikamnia & Heroin Tablets" and "Laxative Antikamnia Quinine Tablets." Send to them for samples, mentioning THE CANADA LANCET.

SANMETTO IN PROSTATITIS, URETHRITIS, CYSTITIS.

W. J. Chittock, M.D., Jackson, Mich., says: "I have used Sanmetto extensively in my practice for some years, and in well chosen cases have always gotten good results. I look upon it as a most valuable remedy in prostatitis, urethritis, cystitis, and in fact all inflammatory conditions of the genito-urinary tract."

AN OPEN LETTER FROM THE FERROL COMPANY.

We take the liberty of addressing the physicians of the Dominion in order to acquaint them with certain changes which we have made, or contemplate making, in regard to Ferrol and the method of conducting our business.

We have secured commodious premises at 124 King St., West, Toronto for warerooms, laboratory and offices, where we shall be delighted to see any of our medical friends who may make it convenient to call.

While no change will be made in the formula, we have decided to discontinue the manufacture of "Ferrol with Creasote," "Ferrol with Acid Phosphates" and "Ferrol with Manganese." However, the emulsification is so perfect that Ferrol is readily miscible with creasote, brandy or wine at the pleasure of the physician.

We are now using a specially refined brand of Cod Liver Oil and physicians will observe a marked improvement in the flavor, in fact, Ferrol is now really "pleasant to take." Moreover, we guarantee the stability of the preparation and it may be prescribed with the utmost confidence where Cod Liver Oil and Iron are indicated.

Physicians, who have never prescribed Ferrol, are invited to write us, enclosing professional card, and we shall gladly send a full-sized bottle for trial.

Trusting we shall continue to receive the favorable and highly esteemed consideration of the profession.

AN INTERESTING AND EXCELLENT EXAMPLE FROM THE COAST OF MAINE.

A professional call up on the Maine coast in mid-winter at Ogonquit, York county, furnishes many delightful opportunities for enjoying some of the pleasures of a country doctor's life. On a case of ugly, persistent, nagging cough, in a case of broncho-pneumonia, I had the pleasure of suggesting Glyco-Heroin (Smith) to good advantage. The attending physician, Dr. J. W. Gordon of Ogonquit, one of the able and busy medical men of Maine, related to me the details of a very aged patient who was almost dead from exhaustion with a case of irritable cough, due to chronic bronchitis, complicated by hiccoughs, that everything had failed to relieve. The Glyco-Heroin (Smith), in teaspoonful doses, relieved the cough and cured the hiccough magically and permanently; patient was soon able to take nourishment and is recovering rapidly. — From *The Medical Mirror*, March, 1903.

BACTERIOLOGICAL CHART.

M. J. Breitenbach & Company, (Pepto-Mangan, Gude) of New York, will send by mail one of their bacteriological charts. This chart has taken months of laborand the combined application of many artists. They will send a copy, free of cost, and believe every member of the medical profession possessing one will be much gratified. As they make no charge for these charts, they would appreciate it very much if you would send for one. They feel safe in asserting that no piece of work ever sent to the medical profession, free, stands out so boldly as a work of art.

DECREE IN FAVOR OF FAIRCHILD BROTHERS & FOSTER.

Final decree, enjoining James Kerr, *et al*, from selling substitutes for Fairchild's Essence of Pepsine. At a special term of the Supreme Court, Part I thereof, held in and for the County of New York, at the County Court House, Borough of Manhattan, City of New York, on the 25th day June, 1903.

Now, on motion of Gould & Wilkie, attorneys for the plaintiff, it is

Adjudged that the defendant, his clerks, agents, servants and employes, be, and they hereby are, enjoined and restrained perpetually from selling or dispensing either at the drug store of the said defendant, at West New Brighton, in the Borough of Richmond, of the City of New York, or elsewhere, any Essence of Pepsine, or pharmaceutical preparation of any sort or kind whatsoever, not manufactured by plaintiff, in imitation of, or in substitution for, Fairchild's Essence of Pepsine, whenever Fairchild's Essence of Pepsine is prescribed or asked for, and from representing by any word or action that any preparation sold by said defendant, not manufactured by plaintiff, is Fairchild's Essence of Pepsine, together with taxed costs.

THOMAS L. HAMILTON, Clerk.

GLYCO-THYMOLINE IN ENDOMETRITIS.

Chas. A. Stedman, M. D., Cleveland, O., in the New York Medical Journal, Sept. 12th, 1903, reports the following case:

Mrs. R. This was a case of endometritics, with extensive inflammation. The entire vaginal tract was inflamed and tender, with slight ulceration of the os and profuse leucorrhoeal discharge. There was a great deal of pain in the lumbar region, and the patient was extremely nervous. Tampons of Glyco-Thymoline and glycerine, equal parts were applied and left in situ twenty-four hours. After removal of the tampon I gave the patent a viginal douche of a solution of Glyco-thymoline and

water. Under this treatment the pain and tenderness rapidly subsided and the leucorrhoea diminished. After three months I instructed her to use Glyco-Thymoline douches three times a week, which were continued for some time. All her symptoms have disappeared and the patient now considers herself well.

HYDROZONE IN SEPTICÆMIA.

X, a white woman, 22 years of age, was taken into the hospital on account of syphilitic skin disease, a blennorrhagic vaginitis of most violent description with strong congestion of the mucous membranes of the vagina. The gonococci infection reached to the neck of the uterus. Above the mouth of the neck was a syphilitic ulcer of the size of a dime, clean at the bottom, livid in color and rather deep.

Upon careful examination, the patient was found to be pregnant in the third month; and, was subjected to energetic treatment.

Under treatment she improved rather well; but, though the blennorrhagia was not cured, the syphilitic manifestations of the skin disappeared, and the ulcer at the neck improved somewhat, until confinement which took place at the eighth month.

The confinement was normal. However, the patient suffered a complete laceration of the right side of the neck; an incomplete laceration of the left side; an incomplete laceration of the rear wall of the vagina; and a two-thirds laceration of the perinæum. The palcenta was removed at once; ample warm washes of a 1 per cent. solution of permanganate of potash were applied and the uterus was stimulated by massage, but remained inert. All this was reported to me by the house physician. I arrived at the hospital four hours later in company with the well-known gynecologist, Dr. Mendez Capote, who decided to sew up the lacerations, and touched the ulcer at the neck with the cauterizer; then he gave another wash and plugged with iodoform gauze.

When the patient was on the operating table, she had fever, 38.4°C. At 5 p. m. the fever was at 39°; then the vaginal plug was taken out and a large intra-uterine wash of one-half per cent. solution of permanganate was given very hot in a quantity of five liters. The fever was at 40° throughout the night, and washes were given every four hours.

The following day, at 8 p. m., temperature 40°, same local treatment. The fever lasted all day, falling to 39° by the wash, but rose again to 40°.

The day thereafter, fever at 41°; same treatment with more vaginal washes of bichloride of mercury, before the uterine washes; the fever kept on at 41°.

On the next day at 8 p. m., (temperature 41.5°), I took out the stitches, washed well both uterus and vagina, dried the latter with carbolated cotton and conveyed into the uterine cavity eight grammes of pure Hydrozone, taking care that this liquid should flow towards the vagina, into which I poured about 60 grammes of the same liquid and drained the uterus with simple gauze saturated in Hydrozone, while the vagina was drained by the same means.

From the time on the fever declined slowly, and at 6 p. m., it was apyretic. The fever did not return and the patient's cure proceeds without further difficulty.

Hydrozone can be applied if care is taken to keep the neck dilated as much as possible.

In this case the superiority of Hydrozone over the other treatments of puerperal septicæmia is indisputable.—Dr. Matias Duque, Director of the San Antonio Hospital, Section of Hygiene. Abstract from the *Revista Medica Cubana*, April 15, 1903.

STEARNS' IMPROVED SERUM BULB.

The syro-bulb, in which the Stearns serums have been marketed, has been materially improved. Instead of breaking the ends of glass stems, all that is now necessary is to remove a sterile rubber cap from the ends of the stems. This improvement, together with their flexible rubber attachment for the needle portion, renders this form of serum administration about ideal.

The Stearns diphtheretic antitoxin and the Stearns streptolytic serum are both offered in the improved syro-bulb at no extra charge.

ANTIPHLOGISTINE IN THE TREATMENT OF DISEASE.

As a non-conductor of heat Antiphlogistine maintains the degree of temperature at which it is applied or nearly so, for 12 to 24 hours, requires no attention whatsoever, and is in every way pleasant and agreeable.

The treatment of inflammation through the medium of Antiphlogistine has the endorsement of every active practitioner as the most approved method of curative procedure.

Antiphlogistine renders ready service to the patient and physician by promptness and positiveness of action.

For therapeutic efficiency in rapid resolution of the products of inflammation, Antiphlogistine is unexcelled.

Expectation becomes realization in all cases of localized inflammation where Antiphlogistine is applied.

Extension of the septic products along the vascular highways is prevented by the use of Antiphlogistine.

The abstraction of blood from the deep blood-vessels into the superficial capillaries through physiologic innervation is physiological phlebotomy. Bleed, but save the blood, is the mechanics of Antiphlogistine.

THE MAX DUPLEX INHALER.

This inhaler is manufactured by the J. N. McKim Company, of Montreal. After repeated trials, it has been proven to nebulize the chemicals placed in the bottles in a most thorough and satisfactory manner. Its construction is simple, but scientific, and is easily put together and operated. The ingredients to be vaporized may be varied. The bottles are so arranged that the fumes of hydrochloric acid is passed through a solution of ammonia, producing a white vapor of extreme fineness. This vapor carries coated with the medicus which it passes through, and which consists of the following ingredients: Creosote, eucalyptol, ol. menth. pip., ol. cassiae, ol. gaultheriae, ol. pini, alcohol. This formula may be varied in composition and strength. It has a marked effect on the cough and expectoration.

CHARLES E. FROSST'S PREPARATIONS.

Messrs. Frosst & Co., of Montreal, have placed before the medical profession the following preparations: Pinocodeine, Elixir Digitalin Co., Ferrogen. They are put up in an attractive and palatable form, and merit a trial.

From the returns of the Provincial Secretary's Department there were in the various institutions on August 1st of this year the following number of inmates:—Fifty-four hospitals, 2,418; forty-one refuges, 2,566; thirty-two orphanages, 1,823; one asylum for idiots, 687; seven asylums for insane, 4,669; one deaf and dumb institution, 288; one institute for the blind, 138; Central Prison, 366; Boy's Reformatory, 95; Mercer Reformatory, 137; in forty-two gaols and fourteen lock-ups 529; totals, 13,712.

THE LATE HON. SENATOR GEORGE LANDERKIN, M.D.,
Hanover, Ontario.

THE CANADA LANCET

VOL. XXXVII. JANUARY, 1904. No. 5

AMYOTROPHIC LATERAL SCLEROSIS.*

By ALEXANDER McPHEDRAN, M. B.
Professor of Medicine, etc., University of Toronto.

THIS is one of the most rare of the organic diseases of the nervous system. As it affects both the cerebral and spinal segments of the motor tract widely, it is subject to much variation in its symptoms according as it affects one or the other segment primarily and chiefly. In the majority of cases the spinal neurones are affected earliest as shewn by paralysis with atrophy, the spastic symptoms developing later. In this case the cerebral neurone appeared to have been first affected as shown by the weakness and stiffness of the lower limbs.

George Rosenberg, aged 47, worked in cement works for the last few years and was therefore much exposed to wet and cold.

There is nothing of moment in his family history. His habits were good, and he had always been well.

His present illness began in September, 1901, with twitching and weakness in the thighs, and shortly afterward in the hands, forearms and arms; he was soon unable to work. The left leg became affected first, and later the right one. They both became stiff and heavy, and he found it difficult to get about. He has not walked since late in August, 1902. The hands and arms became weak without stiffness, and wasting in them became evident a few months after the symptoms began, and has increased rapidly, especially during the last few months.

Speech became affected early in the summer of 1902, and swallowing about the same time.

The following entry was made on admission to Toronto General Hospital:—

He is a large man. His expression is anxious and quite staring, owing to the wide palpebral fissures, but he has full power to close his eyes. The lower part of the face has little expression, and the movements are not free. He can close the lips but not purse them to whistle, nor hold them together while puffing out the cheeks. The movements of the tongue are awkward and it is protruded with difficulty. The

* Presented at the Canadian Medical Association, London, Ont., Aug., 1903.

soft palate is not affected. Phonation is good, but speech is barely intelligible. Swallowing is difficult, so that food can be taken only in the erect position; solids and semi-solids are taken more easily than liquids. Jaw-jerk is easily elicited, and is very marked.

The arms are almost powerless The shoulder-girdle muscles are quite paralyzed and atrophied. He can flex the elbow with difficulty so as to bring the hand up on the chest and extend it again, and he can barely flex the wrist and fingers through the action of the long flexors. Power of rotation of the hand is lost. There is much atrophy of the forearms. The muscles of the hands are almost completely atrophied and the hands present the typical claw-like appearnce.

Elbow-jerk is marked, but there is no wrist-jerk, the forearm muscle atrophy having advanced too far.

The trunk presents no change from the normal, except lessened expansion of the chest in respiration.

The lower extremities appear well-nourished, and are very firm. Slight fibrillary twitching is present in many parts, chiefly in the inner sides of the thighs, less so in the legs.

The knees are flexed with much difficulty, resistance being continuous during flexion. Knee-jerk is extremely exaggerated. Ankle-clonus is difficult to obtain, owing to the extreme spasticity of the calf muscles, but sufficient relaxation was obtained on one or two occasions to give marked clonus. Tendo-Achilles jerk is marked. There is typical dorsi-flexion of the great toe of the right foot, ankylosis of the left metatarso-phalangeal joint prevents extension of the great toe beyond the straight line. There is no cremastic reflex, but the abdominal is easily obtained.

There are no sensory disturbances, but he gave a history of some girdle pain in the abdomen for a few months, it disappeared a month before admission.

The bladder and bowel functions are normal.

His mental condition is clear, but his emotions are easily disturbed, so that he laughs immoderately and is as easily made to weep.

He went home into the country in June. The bulbar symptoms continued to grow worse so that swallowing became extremely difficult. He died early in September, 1903. An autopsy could not be obtained.

Remarks.—The duration of this case was unusually long—two years after the onset of the first symptoms, and fifteen months after the bulbar symptoms first showed themselves. Most cases terminate in about one year.

Fig 1. Shows loss of power in the face and upper extremities; the feet are held in normal position, showing that the muscles of the legs have not lost their tone. Atrophy of the deltoid is well shown; also some of the face.

Fig. 2. Showing atrophy of the themar and interosseous muscles; also the ape—or claw-hand.

The symptoms were quite characteristic: the paralysis with atrophy in the upper extremities and face showing degeneration of the motor neurones in the cervical and bulbar portions of the spinal cord; and the spastic paralysis of the lower limbs with the marked irritability of the wasted muscles of the arms and face indicating equally clearly degeneration of the cerebral neurone processes in the crossed pyramidal tracts. The extremely marked jaw-jerk showed that the pyramidal tract degeneration had extended up at least through the medulla, beyond the motor nucleus of the fifth nerve. Judging from the long duration and marked character of the spastic symptoms, it is reasonable to suppose that the sclerosis extended up to the internal capsule, and that there may have been degenerative changes even in the motor cortex itself.

In amyotrophic lateral eclerosis, the onset is usually with weakness and early atrophy of the muscles of the upper extremity, as the spinal neurones of the cervical cord are, as a rule, first affected. In this case, weakness with spasm of the legs occurred first and without demonstrable atrophy, indicating that the peripheral parts of the cerebral neurones in the lumbar part of the spinal cord were the first to degenerate; the absence of atrophy shows that the spinal neurones in the lumbar cord remained practically healthy.

That his emotions were easily disturbed was, doubtless due to his difficulty in making himself understood. There were no other signs of mental weakness.

The full-length illustration (Fig. 1) shows very well the loss of tone and atrophy of the lower part of the face, of the arm (especially the deltoid muscele), and of the hands. The legs and feet are well nourished, and the position of the feet shows that the muscles have not lost their tone.

ANTISEPTIC SURGERY IN THE EIGHTEENTH CENTURY.

Dr. Angas Johnson, of Adelaide, sends us the following note which occurs in Percival Pott's chirurgical works, vol. i., p. 351, published in 1808:—"The Baron Van Swieten, writing as many others have done, that is, theoretically, on surgery, advises us in the case of very bad compound fractures, which may most probably require amputation, to defer operation until we have tried the force of *antiseptic fomentation*, and appliances of like kind, for two or three days; and this opinion and advice he builds, in some measure, on a remarkable case of La Motte, in a seemingly desperate case of a man's leg smashed by the wheel of a heavy carriage. That La Motte's patient escaped I have no doubt, because he has said so; but the surgeon showed much more rashness in attempting to save such a limb than he would have done in the amputation of it; the operation would have been the more justifiable practice."—*Australian Med. Gazette.*

MEDICAL COLLEGES AND THEIR CLINICS.

JOHN HUNTER M.B., Toronto.

THE puissant ex-dean of Trinity and his cohorts seem to have gone into winter quarters and from their safe retreat, to watch doubtless with many misgivings, the heavily ladened bark of the "Fusionists" as she "weighs anchor" and "puts out" to sea. The old tars must admit that the new "liner" is one of the largest of its kind and that it has double the officers usually allotted to such craft. Some of the old voyageurs even hint that it is — at least numerically — top-heavy. In answer to this it may be said that the crew was made up under very unusual circumstances, and in any event some must resign, and time, the impartial arbiter of all things mundane will deal effectively with all the rest. These observant censors must have also noticed that it had on board a very full complement of new recruits for our profession.

Now that the smoke of battle has cleared away, and whilst the boat is still within range of being supplied with current medical literature, it seems an opportune time for the friends of medical progress, to take a calm survey of the whole situation; so as to form some estimate of what has been accomplished and to discuss some of the problems pressing for solution.

Progress in our science and art, as in industrial pursuits can be fairly accurately estimated in two ways, either by comparing one period with another, or by comparing the results obtained from different methods and in regard to the latter, as most physcians claim to be too busy to travel, even to the meetings of their medical associations much less to go abroad; it may be of some interest to these industrious mortals to hear about what is being done eleswhere.

Didactics.

The writer in order to take some notes on the science and art of medical teaching, as exemplified in the various colleges of New York—one of the world's great medical centres—attended a number of lectures given to the students in their different years. It was easy to distinguish two types of lecturers, or professors. These were in direct antithesis. The ranks between these extremes, are filled up with intelligent, practical, resourceful men. These are in the prime of life, strong, self-reliant, and, on the whole discuss their subjects intelligently, and meet fairly well the needs of the students. They are profusely supplied with pictorial plates, and all other kinds of ingenious devices for purposes of illustration. Returning to our distinctive types, one from each is selected and by the aid of the latin maxim "*Ex uno disce omnes*" all in these

classes in every college may be judged. The two men selected have very much in common. Both have passed the three score mile stone on life's high-way. Each occupies a very high niche in the temple of medical fame, and has taught many generations of students. Prof. A. had a rather dry subject, but it was so systematically arranged, the students had no trouble in taking very full notes; his language was concise and delivered in tone and gesture of fervid eloquence. The students had a profitable and enjoyable hour, and when the bell rang, lustily cheered the speaker, and went out without feeling any sense of physical or mental fatigue. Prof B's subject was a very interesting one but he had evidently taken no pains to arrange the outlines systematically. He rambled so far afield that it was impossible for the students to take notes satisfactorily, his vocabulary was meagre and he spoke hesitatingly and in an undertone. His students left the room mentally and physically exhausted from over-strain, in their efforts to follow him. They were discouraged and dissatisfied and their physical and mental energies impaired for the rest of the day. When students have to attend a number of lectures in succession it is a very serious matter for any speaker to impair their energies. The contrast between the appearance of the same students as they went out from those two lectures was an object lesson for any teacher. It re-called to the writer,—and doubtless will also recall to many of the readers of this Journal—the scenes of a quarter of a century ago in the lecture room of the old Toronto School of Medicine. Many names could be mentioned, but time and space will only permit a very brief reference to three, one of whom is with us still the other two have crossed that "bourne whence no traveller ere returns." Who can forget the strong poise in attitude and infectious zeal of Dr. Richardson as he set out in quest of the Foramen of Winslow whose habitat had hitherto seemed so mythical to the young anatomist. But before the doctor got through, he would have his students, inspired with something of the spirit of the old mariners as they sailed between the "Pillars of Hercules." Dr. Barrett with his systematic outlines, classic language, and chaste eloquence, could make any problem in physiology so inspiring, that he could even discuss the by-products from "natures' laboratory," without disturbing an aquiline feature of the most fastidious student. Who could fail to appreciate, Dr. W. T. Aikins, as in clear fluent terms and in musical cadence of tone he depicted the symptoms of acute synovitis of wrist or ankle. How confidently he would survey the rows of students, as he knew before he asked the question, "Gentlemen what would you do in a case of this kind" that even the youngest of them would promptly answer—"Elevate the part." So

firmly was this sound surgical maxim impressed, that it won fame and other results for some of the graduates, as the following story shows. A farmer of humane tendencies was helping his hired man, about 5 a.m. one stormy winter day to feed the stock, when in the darkness he stumbled over something and sprained his ankle. With self-forgetfulness, worthy of a better fate, he kept going until the wants of the hungry animals were provided for. The pain became so intense that he was obliged to lie down in an empty stall. He dispatched the hired man for the young doctor, who,—after assuring the messenger that he would come as quickly as possible—instructed him to hasten back, spread some horse blankets on the floor, lay his "boss" on them, elevate his feet on the manger, fill his sock with snow, and tie it around the inflamed ankle. The relief was so magical that the young surgeon's fame spread all over the townships. The tale is soon told. The dire calamity, that has befallen so many successful rural practitioners—"Swelled head" and removal to Toronto.

Who can forget such teachers. Will not their students ever be inspired by the same spirit as the poet who—if I can quote correctly from memory—said:

> "When the flood that overflowed the soul
> Had passed away. Then was left
> Deposited on the silent shores of memory
> Images and precious thoughts
> That shall not die, and cannot be disturbed."

The time, physical and mental energies of students are of such vital importance that the governing boards of every educational institution should employ one or more literary detectives to watch the teachers. Any teacher who wasted the time or exhausted the vigor of the students by his faulty methods or defective elocution should be dismissed and, "*en passant*," if this censorship were properly observed over our pulpits, legislative halls, law courts, medical associations, lecture platforms, &c., what a slaughter there would be with "wailing and gnashing of teeth," but it would enormously improve the usefulness of all these institutions and elevate their standard. What about some writers. Well! ask the editors.

Clinics.

If much can be said in favor of the concise fluent lecture as a valuable factor in medical education, how much more can be said in favor of a good clinic, where the teacher has a patient on whom he can demonstrate his subject and on whom the student can exercise eye, ear and hand in acquiring knowledge. Two of the most, if not the most, important problems confronting our medical colleges are 1st How to

make the best possible use of the clinical material on hand. 2nd How to secure a more adequate supply. If our young graduates are to go out to their life's work well equipped it can only come from their having had proper clinical facilities for acquiring practical knowledge. It is a very nice accomplishment for a young physician to be able to discuss medical problems and their theories intelligently and eloquently, but it is of infinitely more importance to be able to relieve suffering and restore health.

Every one must cheerfully admit that splendid progress has been made in medical teaching—didactic and clinical throughout our Dominion during the last two or three decades, so that in the medical arena as well as on battlefield we are, in sporting parlance, quite *gamey*. "*Honi soit qui mal y pense.*" But what we have already accomplished, is only as the dawn to the noon-tide splendor of what may yet be done.

In discussing some phases of our educational work recently with one of the University professors (arts), he said that along some lines the United States were leading the world, one instance he gave was the modelling of our medical building after one of theirs. He deprecated the cynical sneer with which the mention of anything American is met by many of our Canadian and British educators. I have heard some of these from sources that surprised me very much. Knowledge is circumscribed by no national boundaries and he is a fool who would allow national prejudices to hamper its progress. It does not impair our Canadian patriotism to glean whatever good things we can from the rich harvest fields of our ingenious resourceful cousins across the border.

A visit to any of the large medical institutions of New York, *e.g.*, The Vanderbilt Clinic or Roosevelt Hospital, conveys a splendid idea of what can be done in the way of clinical teaching. Take for instance the facilities provided for teaching such specialities as nose and throat, eye and ear. Around the walls of a large room twenty or thirty separate apartments are fitted up with everything required for making an examination and carrying out certain lines of treatment. There is a black-board on which the student is requested to make his notes. Rare or difficult cases are examined by the professor then passed round and discussed. The students have to select suitable cases for demonstrating lectures in the class room. In Roosevelt Hospital in connection with the outdoor clinics, for medical, surgical and gynæcological cases there are suites of rooms supplied with all the facilities for examining and giving certain forms of treatment for these cases. There are nurses in attendance. It was the writer's good fortune to meet some English, Scotch, and American physicians fresh from the hospitals of Great Britain and the Continent. They said they had not seen anywhere better facilities for clinical work than in New York.

Every practitioner and every student present or prospective of medicine, who cares a button for his profession, beyond the dollars and cents he can make out of it, should be deeply interested in the clinical phase of medical education, for it leaves its impress for good or evil on the character of our work and on the usefulness of our calling. Space only permits the throwing out of a few suggestions. (I.) A meeting of representatives from the staff of each of our hospitals in towns or cities to consider the problem of furnishing more adequate clinical facilities for our students, and for post graduate work (II.) Every physician should try to interest his well-to-do patients in the vast importance of clinical work as an aid in preserving the health of the people, in the hope of getting grants or bequests for the purpose of providing more accommodation for this class of work. (III.) Educate our patients, rich and poor, to know that they may be able to confer the great boon of longer life and better health on themselves and others by submitting their own persons when sick for clinical investigation. One of the most cultured and refined ladies in this city was affected with a rather peculiar form of disease. Her physician suggested to her that it would be of great interest to the medical staff of one of our hospitals, if she would present herself at one of the clinics. She said I will do so with pleasure. On leaving the room after a long and trying examination by twenty or thirty physicians her own attendant went to thank her. She said no doctor, the thanks are all due to you for giving me this opportunity of being of some service to my fellow beings. She donned her seal skin jacket and went out to her carriage happy in the consciousness of that which alone can confer true happiness, viz, of having done a good deed.

CLINICAL NOTES FROM ROYAL ALEXANDRA HOSPITAL, FERGUS.

By A. GROVES, M.D., Fergus.

Intestinal Anastomosis by Elastic Ligature.

Patient—A boy of fifteen had been kicked by a horse, two years ago, when the small intestine was ruptured in two places. A laparatomy was done and the bowel sutured. Complete recovery followed in a short time without untoward symptoms. His present attack began with severe pain in the abdomen which could only be relieved by morphine or chloroform. Vomiting occurred but was not at all fæcal nor indeed persistent or continuous as hours sometimes elapsed between attacks. Enemata brought away small quantities of fæcal matter, but both pur-

gatives and enemata failed to produce a free evacuation. Tympanites developed suddenly, and at the same time the pain became continuous. A diagnosis of stricture of the intestine with probable adhesions was made and the abdomen was opened by a long incision. The bowels were withdrawn from the abdominal cavity, and two firm adhesions to the abdominal wall separated. A cicatricial stricture was found, the calibre of the intestine at the point of narrowing being about a quarter of an inch. A curved needle threaded with a McGraw Elastic Ligature was passed into the bowel about an inch below the point of stricture carried through the constricted portion and brought out about an inch above it. The ligature, being kept tensely stretched, was fastened by a silk ligature as advised by Dr. McGraw. A continuous Lembert suture prevented any possibility of intestinal contents escaping when the ligature began cutting through. As was to be expected the symptoms of obstruction persisted until the ligature began to cut through, but at the end of forty hours a free evacuation took place, and the case progressed steadily to recovery. The fact that the obstruction is not immediately removed appears to be the only objection to the method in these cases, but where the operation is undertaken in time, and the symptoms are not urgent, the elastic ligature appears to be the very best method of making an intestinal anastomosis.

Estländers Operation.

Case I.—A man of forty-five years of age presented himself with an opening in the left chest wall from which large quantities of pus poured out. Three and a half years before, a tube had been introduced at a neighboring hospital, but in some way it had been permitted to drop into the chest cavity where it was allowed to remain. An incision was made extending from the original opening in front to within two and a half inches of the spinal column, sections of six ribs were removed and a piece of stout rubber drainage tube, eight inches long, taken out after an imprisonment of nearly four years, the enormously thickened costal pleura was incised and loosened so that it could be applied to the visceral layer and cut muscular ends were also turned in and stitched so that the cavity was practically filled up. The discharge gradually ceased and the patient went on to complete recovery.

Case II.—A lady who had twice undergone partial operations but who had still a large cavity and a great pus discharge. On account of imperfect drainage her temperature was usually above normal and she had lost flesh to a marked extent. An incision ten inches long gave sufficient space for the removal of the portion of ribs necessary to per-

mit the soft tissues to fall in and be approximated to the visceral pleura. On account of her great weakness it was somewhat doubtful whether or not she could stand the shock of so severe an operation, but although markedly depressed when the work was completed, she reacted well, and at the end of three months had gained twenty pounds in weight. This case illustrates the result that may be obtained when a patient is in an almost hopeless condition as well as the urgent necessity of rapidity in operating.

Class III.—Patient aged thirty-eight years had a right empyema of several months duration from which an enormous quantity of pus escaped through an opening where about an inch of rib had been resected. A long incision through everything down to the bone was made and through this portions of five ribs were removed, the longest piece taken out of any one rib being eight inches, the pleura was incised, loosened and turned in and the cavity further filled up by turning in cut muscles. The patient left the hospital at the end of a month with only a very small discharge, hardly enough to soil a dressing to a slight extent once in twenty-four hours. In doing this operation two things are especially necessary, speed and unwavering thoroughness. The surgeons success will be largely influenced by these two factors, if he is slow he runs a great chance of losing his patient, if he lacks thoroughness he will not have complete recovery. In cutting through the ribs I have found a sharp chisel more useful than anything else. Bone pliers are useful, and so are the various pliers specially designed for operations on the ribs, but a chisel well sharpened meets almost every indication. Ordinarily there is no need of a U shaped flap being raised up nor of multiple incisions. Having explored the cavity with a long probe, a uterine sound is suitable, make the incision in the direction of the long diameter of the cavity and there will ordinarily be no difficulty in removing all the ribs necessary without any secondary incisions. To my mind it is not advisable to cut away the thickened pleura, and it certainly appears like unscientific practice to cut away all the tissues of the wall as suggested by Schede, leaving only the skin and superficial fascia. The removal of any of the soft tissues is not only unnecessary but injurious. It greatly increases the danger of the operation, and if recovery follows the side is weakened and deformed very much more than if all the tissues are left.

FRESH AIR *vs.* DISEASE.*

By G. E. DEWITT, M.D., Wolfville, N.S.

When using the term fresh air, I mean air devoid of impurities, either from pulmonary exhalations, sewer contaminations, or decayed vegetable or animal matter. The open air may not always be fresh and pure, as there may be present one or more of the objectional elements referred to.

Much has been written of late on hygiene, sanitary improvement, as paramount to a healthy existence. Houses and public buildings have been constructed in the past more with a view to a perfect system of architecture and ornamentation, and non-conducive to the healthy life of the occupants. More earnest and persistent efforts are now being made to adopt a better and more perfect system of ventilation. The change is being brought about by the persistant and practical efforts ot the medical profession in promulgating sanitary laws, the encouragement given to the building of sanatoria and the open air treatment of consumption. We may safely argue that if fresh and pure air is necessary to the well being of the individual to live by and with, it must be and is essential and indispensable in the treatment of the sick. It is possible that most of the ailments as fevers, rheumatism and other diseases as well, have been coddled too much in an environment where the temperature is kept to 70 or more degrees. It may appear irrational and unsound to advocate the treatment of fever of any type in the open air; but when we are told and know that the tubercle bacilli of consumption will flourish and grow in a heated atmosphere, and do its most deadly work when the temperature is a few degrees above normal, may we not infer that any other disease germs will be more active under the same conditions. I may be met with the objection that we must have our patients suffering with fever where we can produce diaphoresis, and to do this in the open air would perhaps be unwise and unsafe. With some this is not their experience. Diaphoresis can be accomplished in a room to which is admitted the free circulation of fresh air as well and conveniently as in a hot room of 70 degrees.

The action of pure air in the treatment of tuberculosis is not directly upon the microbe, we are told, but upon the tissues surrounding it, and if upon the tissues, first through the circulation as its mode of conveyance to the tissues. The same procedure must obtain when the system is invaded with any other disease germ, or to state it briefly pure air

* Read at the London Meeting of the Canadian Medical Association.

acting indirectly through the circulation on the bacilli of consumption must have the same effect upon the germ of any other disease.

Again we find that the inhalation of pure air, or the open air treatment of consumption, has a tonic effect upon the patient; it imparts a feeling of vigor, it stimulates the vital forces to such an extent as to allow the resisting power of the body to destroy the germ, it enables the patient to partake of much more food, an essential to production of resisting power, which after all is the more important factor. If by such means the tubercle bacillus is checked and destroyed, will not the germ of other diseases be subject to the same resisting force? It may be argued that to treat fevers and rheumatism in an unheated atmosphere would be unwise and unsafe—as cold is a vital depressant, and in order to ward off the depressing effect of cold there must be a compensatory force to supply the heat of the body thrown off by radiation.

In the open air treatment of consumption the two main factors in preserving and producing heat are clothing and metabolism. Proper clothing to prevent heat radiation and the ingestion and destruction of fats and carbo-hydrates to increase metabolism. Such food in the acute stage of fever is often impossible, owing to impaired digestion. If however, the emunctories are well looked after, commencing with the alimentary canal, the digestion will soon improve and then with proper and well regulated clothing, the patient can inhale the fresh air without risk and the avoidance of all danger of inhaling the organic impurities of respired air. How often is a convalescence protracted because of vitiated air or an atmosphere laden with respired impurities. On one occasion I was called to see a man who had been bedridden for five years. The room in which I found the patient was smaller than the ordinary bed-room, situated on the north side of the house where the sun scarcely had excess. He was anemic, emaciated, with loss of appetite and had given himself up as past recovery. An examination did not elicit any organic disease; but all of the organs were functionally wrong. Five years previous the man had gone to bed with a real or fancied ailment and for this length of time had inhaled air laden with the toxines of respiration. Taking the patient's wife into my confidence, I told her, that he was being slowly and surely poisoned by his own exhalations and his persistent resistence to allow the air in his room to be cleansed and renovated. After getting the patient out of bed a few times and finding he could manage to walk without much effort, I tried to persuade him to go out of doors, but he declared, to go into the open air, and feel the fresh air on his person, even through a window, would give him a cold and perhaps take his life. I told his wife one day that I thought

we might get the patient into the fresh air by setting fire to his barn. One morning the barn was reported to be on fire, and he got out with considerable alacrity and helped to fight the fire, until it was extinguished. The damage to the barn was slight, but the patient finding that the out door air and exercise and even the excitement did not make him worse, but stronger, he was encouraged to go out every day after and for twelve years he did not need a physician and was able to support his family.

O! the consultations that have been paid for, and fees taken for prescriptions when, what the patient most required was a minimum dose of respired air and a maximum of the fresh and unrespired commodity.

My practice is to get my fever and rheumatic cases into the open air as soon as possible. Twelve months ago I treated a case of chronic rheumatism of the muscels of the neck successfully, by the patient sleeping in the open air on a veranda. For six months previous the ailment had resisted the usual medication with massage until the sleeping room of the house was discarded. An improvement was soon perceptible. The patient made a complete recovery, there has been no return of the malady.

The latter part of June of the present year I was called to see a patient suffering with a toxic neuritis of the sciatic nerve. After prescribing the usual remedies, gaultheria, the salicylates, salol, hypodermics of morphia and atropine to relieve the extreme exacerbations of pain, the application of a hot air apparatus in the patient's room for two weeks, with only temporary relief. I got him out of doors, properly clothed, a change for the better was soon manifest and in two weeks in a tent with the judicious use of massage he made a complete recovery. I do not think his recovery would have been so rapid and complete had he not lived in the open air.

My short experience in conducting a sanatorium for pulmonary tuberculosis, warrants me in corroborating others of much greater experience than I, in treating this disease in sanatoria, who say that incipient tuberculosis can be arrested and cured in the open air, and I may add that I think I am not alone in saying it will not be long before it will be more generally acknowledged that many other diseases of microbic origin will yield more quickly to treatment by a judicious and practical use of fresh air. When we become impressed with the fact that the septic micrococci are more abundant in impure air, or air laden with the toxic impurities from the exhalations of the body, we will more readily believe and realize the necessity of having our patients live in and inhale the pure air where the danger of contact with the septic

Examination on Admission. Patient is a young man, fairly well nourished. Face somewhat pale, expression anxious, mucous membranes show moderate anaemia. Tongue lightly coated with whitish fur. Complains of pain across the lower part of his abdomen. T. 102°, P. 92, R. 24.

Abdomen rather full, symmetrical, not moving much with respiration.

On palpation there is acute tenderness and resistance over the whole of the lower zone, more marked on the right side. In the upper zone there is not much tenderness or muscular resistance.

The " rebound pain " sign was very well marked. (See note.)

There was evidence of some distension of the bladder, giving dulness for about one inch above the symphysis pubis.

Rectal Examination showed an acutely tender mass, high up on the right side of the pelvis.

Urine was drawn off and supra-pubic dulness disappeared. No mass was palpable through the abdominal wall, even under ether anæsthesia. Urinary examination gave negative findings.

Past History. Patient stated that he had suffered from recurrent attacks of abdominal pain for ten years, severe enough to keep him away from work for a few days each time.

He never had any severe vomiting or, as far as he knows, much fever with these attacks ; but a physician, who saw him during such an attack four years ago, regarded it as appendicitis, and advised him to have his appendix removed, which he declined.

He was in average health up to December, 1902, when he had quite a severe haemorrhage from the bowel, severe enough to cause faintness and sweating. The bleeding was preceded by a slight amount of rectal tenesmus, but no pain or vomiting, though he felt nauseated. Within a space of three or four days he passed fresh blood five times at stool. The bleeding then stopped and he went to Bermuda to recover. He improved rapidly and on his return weighed 130 lbs.

He had only been at work about two weeks when, on April 29th, 1903, he had another severe haemorrhage, which he attributed to a strain while at work. He bled four times at this period, the blood was generally, but not always, mixed with faeces. At this period there was no severe abdominal pain, but sometimes he felt a dull ache across his abdomen, passing at times to the perinaeum.

On May 2nd, 1903, he was admitted to the medical wards of the Montreal General Hospital, and the following is from the case report written at that time :—

Past History. As above.

Family History. One brother died of tuberculosis.

Status Praesens. Patient somewhat emaciated and rather pale, weight 109¾ lbs. Appetite lost, mucous membranes pale. Dyspnoea and palpitation on exertion since December, 1902. No cough or expectoration. Bowels—regular. Some slight burning pain on passing urine.

Examination of Abdomen, negative, except for slight tenderness over the pubes which passed off in a day or so.

Rectal Examination, negative, no haemorrhoids. Had one or two tarry stools after admission, but later no blood could be found in faeces, even by microscopical examination. No tubercle bacilli in faeces, and no evidence of pulmonary tuberculosis.

Test Meal, negative, and nothing could be made out by inflation of the stomach.

Blood Examination, gave no typhoid reaction. Red cells, 2,935,000; white cells, 8,300. Haemoglobin, 45%.

Urine, normal.

For the first two weeks in the hospital at this time the patient had slight evening rises of temperature, the highest reached being 100 2/5°, but generally about 99 3/5° reaching normal in the morning.

Under rest and iron the condition improved rapidly, weight increasing from 109¾ lbs. to 123½ lbs. during the five or six weeks stay in the hospital.

No recurrence of the hæmorrhages.

No diagnosis as to the cause of the hæmorrhages could be arrived at, examination showing nothing more than the anaemia of moderate grade which had the characters of a secondary anaemia.

After leaving the hospital the patient remained fairly well for five or six weeks, and had been at his usual occupation for three weeks when the present attack set in.

Operation. With a probable diagnosis of acute non-perforative appendicitis, operation was undertaken on the afternoon of the day of admission, when the following conditions were found:

On opening the peritoneum free fluid was found present. The fluid was clear and gave no growth on serum. The peritoneum showed no signs of inflammation.

The appendix was found in its normal position, and not in the pelvis, as we expected. It was not diseased except a partial constriction and adhesions as evidence of former attacks. It was removed by simple ligature and cauterization of the stump.

On exploring the pelvis, a cystic tumour was discovered about the size and shape of a small orange. It was adherent to a coil of small bowel, which it seemed to have dragged down into the pelvis with it, and was also firmly adherent to the floor of the pelvic fascia. This adhesion to the pelvic fascia was clamped and cut, and the tumour delivered with the attached coil of small bowel.

It was then found that the tumour sprang from the ileum, about five inches from the ileo-caecal valve. The tumour was sessile, with rather a small base. Large vessels ran from the bowel wall into the tumour.

The tumour was removed by an oval lateral incision in the wall of the bowel at the site of the growth, and suturing the resulting wound in the bowel wall without complete resection.

The pelvic adhesions were tied off and the abdomen closed without drainage. No enlarged glands in the mesentery or elsewhere, could be discovered at the time of operation. So far as could be determined, the other organs appeared to be healthy.

The Pathologist's report on the tumour, furnished by Mr. W. G. Ricker, was as follows:—

"Specimen consists of a single globular mass, weighing 98 grammes and measuring 6.5 x 5.2 x 5.0 C.M.

The surface is smooth and glistening except for an area of 2.5 x 5.0 C.M., where it is adherent to intestine, a portion of which has been removed in area 3. x 6. C.M., and for a small area of adhesion which has been broken down.

Near the centre of the former portion are two openings .5 C.M. in diam., through which a probe may be passed for several C.M. [These openings before operation had connected the interior of the tumour with the lumen of the gut.]

The smooth surface shows several large blood vessels arising from the intestine. The tumor shows five distinct nodular elevations with a base of I .5 C. M. and height of about .5 C. M. The color of the surface is dark bluish with several gray areas. On palpation the tumor consists of firm masses of tissue corresponding to the gray areas while other portions are soft and give distinct fluctuation.

On section the tumor shows a grayish substance more or less mottled in places by brownish areas. This substance is glistening on the cut surface, has an indistinct appearance of lobulation, is firm and on strong pressure exudes a quite clear fluid resembling serum. In places this is stained with blood. The greater portion of the tumor is cystic, spaces being found which measure 2 C. M. in diameter, and others of smaller

size. These cysts contain red blood clot. The walls of the cystic portions are ragged and necrotic and surrounding tissue has a brownish tinge and is quite friable. Many of these cysts communicate with each other and with the two openings in the portion of intestine described above.

Mic. Exam. Sections were cut through the edge of the tumor next the intestine. The mucosa is that of the small intestine and appears normal. The basement membrane is intact and nowhere do the glands appear distorted. The submucosa is of normal thickness and appearance. The layers of the muscularis are seen to be separated in the form of the letter Y. Between the branches is a small mass composed of spindle shaped cells bound together by a very delicate reticulum. In this region individual muscle fibers are seen separated by columns of these spindle cells. External to the muscularis the tissue is composed of a mass of these spindle cells, while here and there the tissue has somewhat of a fibrous appearance.

Other portions corresponding to the firm, gray areas show solid masses of spindle cells. The diameter of these cells is approximately 15-20 M. M., and the length several times as great.

Pathological Diagnosis: Spindle-celled Sarcoma. Probably arising from the intermuscular connective tissue."

The convalescence was rapid and uninterrupted, patient leaving the hospital on the 23rd day after operation and being able to walk with slight assistance. Weight on leaving the hospital on Aug. 23rd was 112 lbs. Patient reported Oct. 24th, 1903. Has felt quite well since leaving the hospital. Weight has steadily increased up to 120 lbs. at present. Appetite good, and bowels move regularly every day without any laxative. He was about to return to his work in a few days.

In connection with this case report, we wish to refer to a report of five cases of sarcoma of the small intestine and a very full discussion of the subject by Dr. E. Libman, of Mount Sinai Hospital, New York, which appeared in the American Journal of Medical Sciences for Sept. 1900—p. 309.

He states that in three of these cases, the clinical picture closely resembled appendicitis, a resemblance not previously noted by any writer.

In the present case the symptoms and physical examination were both strongly suggestive of acute appendicitis, and this evidence, combined with a definite history of former attacks, seemed fairly conclusive. In addition to this the abdominal condition was hourly becoming worse.

In Libman's first two cases, although a history of an acute illness was given, and one case had been sent to the hospital as appendicitis, a careful physical examination revealed a large abdominal mass, not especially tender, with s gns of free fluid in the peritoneum, so that a probable diagnosis of new growth was made before operation.

In the third case, the patient was a young man, eighteen years of age, who gave a history of only one day's illness.

On the day before admission he was seized with very severe pain in the right lower quadrant of the abdomen associated with vomiting. His bowels had moved on the day of onset. On examination he showed evidence of general peritonitis, and by rectum a doughy mass was felt high up. There was no history of previous attacks, but it was thought that the peritonitis was probably due to a perforative appendicitis. At operation the jejunum was found perforated from the infiltration of its walls with sarcoma. (Cf. Dr. Molson's case infra.)

This case forms an interesting comparison with ours. where the breaking down area was in communication with the bowel only, and no doubt was the source of the severe hemorrhages for which he was under treatment in the medical wards and outside the hospital.

In the fourth case, the patient gave a history of irregular abdominal pain for two weeks, followed by severe pain, especially in the pelvis, for four days. There had been frequent urination for one week, no fever, chills or vomiting. Examination showed an emaciated patient T. 101° A tender mass made out in the lower abdomen more to the right side, and a symmetrical bulging could be felt by rectum.

At operation, a hemorrhagic, cystic tumour was found springing from the ileum, and firmly adherent to the floor of the pelvis.

A beginning diverticulum was present at the point where the growth sprang from the bowel. The growth was removed with resection of two inches of intestine, but the patient died three days later from peritonitis.

Microscopically the tumour was found to be a spindle-celled sarcoma, and at autopsy no metastases were found.

This case tallied pretty closely with the one we have just reported. In our case, however, no mass was palpable through the abdominal wall but the whole of the lower abdomen was tender, especially on the right side. The mass felt by rectum, in our case, was acutely tender. The findings at operation were very similar, except that here the tumour was somewhat larger and farther from the valve than was the case in our patient.

A few of the concluding notes from Dr. Libman's article may be of interest to those who have not an opportunity of reading the article in full. As illustrating the *rarity* of the condition, he states that in sixteen years no case of intestinal sarcoma was observed in the Berlin Pathological Institute, with its wealth of post mortem material.

Thirteen cases were seen at Prague in fifteen years out of a total of 13,036 autopsies. Twelve cases in twelve years at Vienna. When it does occur intestinal sarcoma is generally in the small intestine or rectum.

It has been observed in all ages, but most often between the ages of 20 and 40.

It is seen twice as often in males as females.

Flexner has described bodies seen in the sections of the growths, which he believes to be protozoa, and has hinted at an infectious origin of the growths.

A characteristic feature of intestinal sarcomata is the absence of any tendency to stenosis of the bowel by their growth. This is explained on the ground that sarcoma infiltrates the muscular coat of the bowel, producing a local paralysis which tends to dilatation, rather than stenosis, at the site of growth.

When obstruction does occur, it is from mechanical interference, such as invagination, twisting of the mesentery, or from adhesions.

This is in contrast to carcinomata which tend to produce obstruction by stenosis of the gut.

The tendency of the growths to get into the pelvis, and form adhesions there, has been often noted, and was well illustrated by our case. It is probably at first due to gravity and subsequent adhesions due to degenerative inflammations in the tumour itself.

Symptoms may arise from pressure of the tumour on important structures, such as the vena cava, the bile or pancreatic ducts, or the ureters. Freaking down in the tumour may lead to perforation with peritonitis, or to hemorrhage, either into the peritoneum or into the bowels, as in this case.

This latter symptom does not seem to have been noted, or at any rate to have attracted much attention in the cases reported, though it gave such a definite preliminary history in this case.

As regards metastases, these are rare, or none, in spindle-celled sarcomata, frequent and extensive in lymposarcomata.

They seem to be, however, rather extensions of the growth by continuity than true metastases.

As regards prognosis, unless operation is done fairly early, it is almost invariably fatal, the usual course of the disease being less than nine months in duration. The explanation of the sudden onset of acute symtoms, after a long latent existence of the disease, is supposed to be due to hemorrhages occurring in the growth, or to some mechanical factor, such as twisting of the mesentery or of the bowel to which it is attached.

In the latter case, the "peritonism" is analogous to that produced by volvulus or by the twisting of the pedicle of an ovarian cyst.

In the Hospital report of the Montreal General Hospital for 1882, we find a case of Sarcoma of the small bowel reported under the care of Dr. Molson (Can. Med. & Sur. Journal Vol. 10, p. 601). The patient was very weak, and had marked ascites and general anarsarca. He lived only four days after admission. At the autopsy, Dr. Osler found a very large tumour, involving about 18 inches of the jejunum, the walls of the gut being 6 to 8 inches thick in places. The lumen was expanded. There were metastases in the kidney. It was a large round-celled sarcoma and the history of the disease extended over six months only.

NOTE. The sign which made me urge early operation in this case was the presence of "rebound pain."

This sign, although an old one, does not seem to get the routine use in practice, or the place in current text books that I think it deserves. I may therefore say a few words as to its use and significance.

In examining the abdomen of a patient suffering from acute abdominal symptoms, palpation often determines, better than anything else, the acuteness of the process and the urgency of the case.

In such a case one is often able to press quite deeply into the abdomen without causing much pain. This must be done gently at first and the pressure gradually increased, and is done most easily in the quadrants not the immediate site of the disease; and these should be first examined, to accustom the patient to the process.

If this is done, and the pressure suddenly relieved by quickly removing the hand, the abdominal wall will rebound, and the amount of pain produced is the measure of the degree to which the sign is present.

The explanation of the pain and of its significance seems to be as follows:—

It is taken as indicating the presence of tension in an inflamed viscus, those most often concerned being the appendix and Fallopian tubes.

By pressure on the abdomen the contents are crowded laterally, and the intra-abdominal pressure around the inflamed viscus raised. When

done gradually, this may cause relatively little pain. When the hand is quickly withdrawn, however, there is a sudden lessening of pressure outside the viscus (appendix or tube) and, if the fluid within be under tension there is a definite shock to the wall as the pressure change is compensated.

This causes sharp, sudden pain, which is intensified by its unexpected character, and the patient generally gives an involuntary start or cry, at times almost bounding from the bed.

It is, perhaps, a sign most valuable iu appendicitis, where the question of when to operate and when to wait is so important.

If it be present, there is tension and danger of perforation, but perforation has not yet occurred.

This warning is especially valuable in cases of the gangrenous type, where the constitutional disturbance may be comparatively slight, but the rapidity with which perforation may occur is unusually great. On the other hand, it is absent where perforation has already taken place and tension has been thus relieved

In such cases there is generally a history suggesting perforation and the absence of this sign is useful only as confirmatory evidence. A marked instance of its value occurred in a case under my care during the past summer.

Patient was a young man who had been ill for one day only. He gave no history of former attacks. Temperature and pulse normal. Abdomen acutely tender in the right lower quadrant and rebound pain well marked. Immediate operation was advised, and at operation, a few hours after admission, a distended gangrenous appendix was removed, which would surely have shortly perforated. There were no limiting adhesions.

In three cases seen about the same period, perforation was diagnosed and found at operation, the sign being absent in each case.

It is also very useful in another class of cases, in which it is often very difficult to determine the presence or degree of actual disease, owing to the patient being neurotic or malingering.

Instances are not wanting where too much or too little dependence has been placed on the nervous element in explaining the symptoms in such cases.

From the unexpected way in which the pain is produced it is found to be absent in those cases where a neurosis is the main factor or where the patient is malingering.

If it occurs in a neurotic subject however, it is pretty definite evidence of actual disease and the treatment must be regulated accordingly.

The explanation of the presence of the sign in this case of sarcoma is probably to be found in the fact that there was a hollow, hæmorrhagic tumour directly connected with an inflamed viscus—the inflammation being sufficient to produce a condition of general "peritonism," to use Treves' term.

For valuable assistance in the preparation of this article, I am much indebted to my then House-Surgeon, Dr. E. Hamilton White, now of Montreal, for accurate notes kept at the time, as well as for a condensed history of the medical case report; and also to the then acting-Pathologist, Mr. W. G. Ricker, of the Johns Hopkins Medical School, for a very careful examination of, and report upon, the specimen, as well as for a review of the pathological literature of the subject.

THE PATHOLOGY OF TUBERCULOUS ARTHRITIS—WITH SPECIAL REFERENCE TO THE KNEE.*

By JOHN STEWART, M. B., Halifax, N. S.

AS I have been asked to deal with the pathology of tuberculous arthritis, and as the bacillary theory of tuberculous disease attains its majority in this year, for it is just twenty-one years since Koch's great discovery, I may be permitted to give a short resumé of the pathological work which culminated in the discovery of the tubercle bacillus.

The term "tubercle" is an ancient word in medical literature. Celsus frequently uses it. Etymologically it means a small lump. The anatomist describes the tubercle of the tibia, or the scalene tubercle; the dermatologist speaks of a tubercular syphilide, and there is a condition known as the painful subcutaneous tubercle. And formerly the pathologist applied the term "tubercular" to any nodular or lumpy growth. It was in this anatomical sense used by John Hunter. But the pathological meaning of the word is now restricted to a definite kind of nodule, with very definite pathological properties.

The pathological study of tubercle may be said to have begun about one hundred years ago. In the same year in which John Hunter died (1793), his nephew, Matthew Baillie, published his Atlas of Pathology, the first of its kind and it gave the first accurate description of tubercle as found in the lungs. About the same time, and in the early years of XIX century, Laennac and Bayle in Paris were making clinical and pathological studies of pulmonary tuberculosis and beginning the long argument about the gray and the yellow tubercle, which was to rage for nearly a century. Laennec made two most important observations,

* Discussion at meeting of Medical Society of Novia Scotia Antigonish, July 2, 1903.

He was the first to show that the gray tubercle developed into the yellow, or caseous tubercle (though this was denied by many), and he maintained that tuberculous tissue existed in a diffuse, or infiltrating form as well as in the nodular variety. He also pointed out the similarity in the course of tuberculous disease to that of the infective fevers. These observations introduced a distinctly pathological notion in the meaning of the word tubercle.

During the next fifty years very little progress was made; the chief advance being in a growing conviction of the infective nature of tubercle. And although Nelaton had shown (1837) that the anatomical characters of scrofulous bone were the same as those of tuberculous tissue, few believed in the identity of these diseases. Men spoke of strumous glands, scrofulous joints, and tuberculous lungs, and did not recognize a common factor. The next quarter century, however, was one of rapid advance. The introduction of the modern microscope, and of the methods of experimental pathology brought about a period of immense activity in pathological study. Let us recall the position of affairs about the year 1875. In the first place the histology of tubercle had been pretty thoroughly worked out, and we were familiar with the constituents of the tubercular nodule, the giant cell, the epithelioid and the round cells. The microscope had also demonstrated the identity from a histological point of view of strumous, scrofulous and tuberculous tissue, and, following the nomenclature of Virchow, this kind of tissue, with similar forms found in lupus, leprosy, and syphilis, was termed "granuloma."

In the second place, the old conflict of the gray and the yellow tubercle was still going on. The French School, following Laennac held that the gray, or miliary tubercle was the initial lesion and that the tubercle, or caseated mass, was a consequence. The German school, headed by Buhl and Niemeyer maintained that miliary tuberculosis was always secondary to a caseous deposit already existing in the tissues, which, might be due to various causes. But there was a third point of more importance than anatomical structure or causal relationship, namely the pathological character of tubercle and its etiology. Ever since the time of Laennec the idea of the infective property in tubercle had been more or less clearly before the mind, but it was the experimental work of Villemin that first afforded convincing proof of its infectivity. He published the results of his researches in 1865. He proved the inoculability of tubercle, and also showed that the so-called scrofulous tissue, inoculated into healthy animals, was capable of producing miliary tuberculosis. And yet other pathologists endeavoring to repeat

his experiments arrived at different conclusions. It was held that the inoculation of almost any kind of material might set up tuberculosis, And so it was that the leading English text book of pathology, in 1875. stated that "no specific inoculation is necessary for the development of tuberculosis." But Villemin was right and, as years went on, his experiments carefuly repeated, and carried out with all the precautions indicated by the rising science of bacteriology, pointed conclusively in one direction. It became impossible to doubt the existence of a virous of some kind, and the pathological concept of tubercle was a chronic infective granuloma. Cohnheim, in the second edition of his work on general pathology, discussing the results of these experimental researches, says, "All these facts speak, as I think, so eloquently and "pointedly for the *infective nature of tuberculosis*, that we cannot allow "ourselves to be shaken in our conviction by the circumstance that the "direct demonstration of the tuberculous virous is still an unsolved "problem." This was in 1881. He had not long to wait for the solution. At a meeting of the Berlin Physiological Society, on the evening of March 24, 1882, Robert Koch announced his discovery of the tubercle bacillus.

How does the tubercle bacillus get into the knee-joint? There are three ways in which we may become infected by the tubercle bacillus, by inhalation, by ingestion, by inoculation. Now in studying the infective diseases we have to note two factors, the soil and the seed, the infective and toxic action of the germ, and the protective and immunising action of the tissue cells. And it is a difficult problem. Conditions are varying; reactions are intricate; observations are conflicting. Remembering the past, we ought not to be too positive in our conclusions.

But we may feel pretty sure that under some conditions the tissues are more than a match for the invading bacillus and that it is destroyed before it has done any damage. It is probable that every one of us, is at one time or other, and perhaps frequently, the unwilling and unconscious host of the tubercle bacillus. Where the bacillus has effected a lodgement it acts as an irritant, and the re-action of the organism is seen in the proliferation of the epithelioid cells, with a few giant cells, surrounded by an envelope of leucocytes. The bacilli are found in the central part of the nodule, not among the leucocytes. In fact, the very formation of the nodule seems an effort on the part of the organism to check the advance of the invader. And sometimes the leucocyte envelope gives place to a fibrous capsule and the bacillus is shut in; then we have "quiescent tubercle." But no sooner is the tubercle formed than it

begins to degenerate ; the central part undergoes caseation. This caseation is one of the most characteristic things about tubercle. The pearly gray miliary tubercle is transformed, as Laennec held, into yellow tubercle. And when several tubercles have merged together, and the caseating process has extended, large, irregularly shaped caseous masses are the result.

When the resistant powers of the tissues are insufficient and the tuberculosis advances, there are three routes open for it. The first is by direct continuity of tissue. While some tissues such as serous membranes are particularly sensitive to the action of the tubercle bacillus, and others, as muscle, very resistant, the tendency of the tuberculous process is to advance steadily, attacking everything in its way. This method of progress is slow, and quite localized. The most common path of advancing infection is by the lymphatic system. The tubercle bacilli inhaled into the air passages are soon found in the submucous lymphatics, and then in the bronchial glands. Bacilli taken into the alimentary canal reach the mesenteric glands. The cervical glands may be infected from the lymphatics of the mouth and pharynx. But there is a third route, and to reach the joints the tubercle bacilli must get into the blood current. A caseating focus in the lung may break into a blood vessel, a caseating mesenteric gland may return its bacilli and their products into the lymphatics and thence through the thoracic duct into the venous system, and there are also direct anatomical anastomoses between the smaller blood vessels and lymphatics. It is certain that in whatever way they reach it, tubercle bacilli occasionally circulate in the blood.

Now, what determines their deposit in joints ? We know that synovial membranes like serous membranes are readily attacked by tubercle. Then, the arrangement of the blood vessels in the cancellous tissue of bone may have some part in determining the deposit of tubercle. Cancellous tissue is very vascular, and contains large venous sinuses. In these the current of blood must be very slow, and the bacilli, which in other tissues, are swept swiftly on in the blood stream, float slowly through these venous channels and have time to subside, and there come in contact with the endothelium of the blood sinus which is soon attacked. Cheyne has frequently demonstrated the direct development of the endothelium cells of blood vessels into epithelioid cells of tubercle.

And, finally, a joint, even if it has the advantage of a very free circulation is a part subject to a very great strain and what may be called local fatigue, and anything that lowers vitality disposes to an attack of tubercle.

There are two types of tuberculous arthritis, the one commencing in the synovial membrane, the other in the articular end of the bone. In the synovial form the membrane becomes swollen and hyperæmic. The synovial fluid is not increased in bulk but becomes turbid. There is an increase in the swelling and vascularity, the deeper layers become fibrous, the superficial are transformed into a granulation tissue of a peculiar soft gelantinous consistence, hence the name one very common of "gelantinous degeneration." These changes are seen especially in the synovial fringes they grow in bulk, they fill up the angles of the joint and creep over the cartilage. At last the whole is transformed into granulation tissue, opposite surface may coalesce and the joint cavity may become obliterated. At this stage the joint has the appearance of a synovitis, in the characteristic shape, and the bulgings at the sides. The process may be arrested here, a fibrosis taking place with fibrous ankylosis. If the disease extends the ligaments and capsule are soon affected, and they swell and become œdematous and pulpy, the characteristic shape of the joint is lost, it is globular or fusiform, with no special bulging, as all parts are equally softened. The natural color of the skin is still preserved, hence the name given by the Elizabethan surgeon, Richard Wiseman, "White Swelling." Owing to the great softening of ligaments, dislocation may occur, the tibia being drawn back and behind the femur. The granulations of the synovial membrane attack the cartilage and grow into it, gradually perforating it and attacking the bone. The cartilage may peel off in flakes, as in septic imflammation. The bone becomes carious and shows caseating masses, or sequestra, with fungating granulations, and if pyogenic germs gain access we have a mixed iufection and true suppuration. This is the usual type of synovial disease. There are three other forms. One is acute miliary tuberculosis, only seen in an acute general infection. Another is the limited thickening, generally seen in the knee joint, resulting in nodular or polypoid growths. And a third is tuberculous dropsy of the joint, the synovial membrane is slightly thickened or coated with fibrin and there is a quantity of thin turbid fluid, often containing rice-like bodies. This is generally seen in young adults, rarely in children, and when it occurs in old people the fluid is as a rule purulent, an empyema of the joint. The synovial type of disease is present in about 25 per cent. of all cases. It is more frequent in the knee than in the hip or elbow.

The osteal type of arthritis results from the deposit of the bacillus in the cancellous tissue. In the knee this is usually in the low end of the femur, Rarely it is primary in the patella. The result of the tub-

erculous process is either the formation of soft caseating deposits, or sclerosis of the bone with separation of sequestra. In either case the infection extends towards the joint and towards the periosteum. If it should happen that the extension is more rapid toward the periosteum or that the surgeon detects the condition and cuts down on the diseased area, the joint cavity may escape. Otherwise the tuberculous ulceration, true caries, works it way toward the joint, erodes the cartilage and attacks the synovial membrane, setting up all the changes which we have already noted in the primarily synovial type.

Perhaps the most important practical point in the pathology of tuberculous arthritis is the recognition of the fact that the disease in the majority of cases occurs in the articular end of the bone, and that if this is detected and the diseased focus removed by timely operution, the disastrous results of extension into the joint cavity may be averted.

THE TREATMENT OF TUBERCULAR ARTHRITIS—WITH SPECIAL REFERENCE TO THE KNEE-JOINT.*

By N. E. McKay, M.D., C.M., M.R.C.S., (Eng.)
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THERE are broad general principles which should govern the treatment of all inflammations. For example, the affected part should be given absolute physiological rest, and, if possible, the cause should be removed, and everything which favors the growth of micro-organisms should be got rid of, and fresh infection should be guarded against. If there be any constitutional dyscrasia present attend to it as well.

To treat any disease intelligently, we must understand its pathology, causation and natural tendency. In tubercular arthritis we have to deal with (1) enfeebled tissues, inherited or acquired, and (2) tubercle bacilli. The enfeebled tissues or cells are unable to resist the action of these organisms or do so but very feebly ; and the tubercle bacilli and their toxines excite chronic inflammation in the part which results in the formation of tubercular tissue, the characteristic feature of which is its tendency to degeneration and caseation. Chronic inflammation thus induced weakens the already enfeebled tissues still more, and so encourages the spread of the disease locally. Then again, any injury or irritation from whatever cause aggravates the affection and helps to keep up the inflammatory process. The treatment of tubercular arthritis should, therefore, be directed towards removing, as far as possible, the causes and diseases that perpetuate the disease. The treatment resolves itself into general and local.

*Discussion at meeting of Medical Society of Nova Scotia, Antigonish, July 2nd, 1903.

As tubercular disease occurs in persons with weak constitution, the general treatment should be constructive in its nature. It should be a tissue builder. The weak tissues and cells must be strengthened and toned up and thus put in better condition to defend themselves against the ravages of the tubercle bacilli and their toxines. The system must be built up by good hygiene and an abundance of fresh air, either by the seashore or inland, the locality being determined by the idiosyncrasy of the patient, and a good generous diet. The food should be easily digested. A meat diet is to be preferred to a vegetable one. It is claimed that vegetable food, rich in potash salts, favors the growth of tubercle bacilli (Bidder.)

Cod liver oil, iron, quinine, creasote, guaiacol and the bitter tonics are the drugs usually relied upon for building up the system in tubercular arthritis. General treatment in tubercular arthritis does not avail much unless it is supplemented by local means, and if a choice has to be made between the two methods the local should first be tried.

Local treatment may be divided into two classes, viz. :—(1) Expectant and (2) Operative. Which plan to adopt in any given case will depend upon (1) the surgeon's views of the curability of tubercular joint disease by the expectant plan, or (2) his ideas of the dangers of general infection from local foci, or (3) whether or not the disease has ended in caseation—the formation of an abcess.

By the expectant plan of treatment the tubercle bacilli are not attacked directly but indirectly by rendering the tissues better able to resist their destructive action. These organisms get in their deadly work largely by the chronic inflammation they induce and so paves the way for local extension of the disease. By it the tissues and cells are weakened and rendered less able to defend themselves against the ever aggressive attacks of the tubercle bacilli. Treatment should, therefore, be directed towards removing, if possible, all the local agents that may be concerned in the production of the inflammatory process. First, remove the cause, if possible, but unfortunately this cannot be done in infective diseases under the expectant plan ; secondly, give the part absolute physiological rest and elevate the deceased limb. This is done by immobilizing the inflamed joint by some form of fixation splint and the recumbent position. The form of splint will depend upon the extremity and the joint affected. Splint is sufficient where the disease is synovial in origin and limited to the membrane. This is known by the absence of nocturnal spasms and rigidity of muscles, and the presence of hyperplasia of the membrane. When the disease, however, affects the articular surfaces—as is indicated by tonic contraction and rigidity of muscles,

pain and nocturnal spasms and flexion of the joint—in these cases the pressure of the two diseased articular surfaces against each other, caused by muscular contraction, aggravates the disease. To overcome this condition, and relieve the pressure and secure absolute rest to the joint, more than the mere application of a fixation splint is required. Here muscular contraction has to be overcome by weight extension. The amount of weight employed has to be regulated by the effect produced. The idea should be, not to draw the two surfaces apart, but to tire the muscles and so relieve the pressure of the two opposing surfaces. When extension does good, pain and spasms will speedily cease. If, however, in 10 or 12 days, pain recurs, but no spasms, it is due probably to over-stretching of the ligaments, and the weight should be reduced. In synovial disease *per se* weight extension should not be used except when deformity is present. This treatment should be continued for 3 or 4 months until good progress is made towards recovery as indicated by the disappearance of inflammatory symptoms—pain and tenderness, after which he may be allowed to go about on crutches—if limb or knee-joint is affected—with a Thomas' splint. Fixation of the joint may be supplemented by other measures from which benefit has been derived in the treatment of simple chronic inflammation, *e. g.*, the actual cautery, counter-irritation and pressure. Massage in the treatment of tubercular joint disease is positively contra-indicated, although of great value in simple chronic inflammation.

The forms of counter-irritation usually employed and from which benefit has been derived in tubercular arthritis, are the actual cautery and Scott's dressing—unguentum hydrarg. comp.

The best results are obained from the actual cautery in deep seated joints, such as the hip and shoulder, and in spinal caries It does not do any good in pure synovial disease or in superficial joints like the knee. In fact I have seen it do harm here.

Until 1885, it was the treatment *par excellence* for tubercular arthritis of the knee-joint in our Victoria General Hospital. I have never used it for this joint except once, and I am satisfied it did more harm than good, for it so aggravated the disease that I was obliged to amputate the limb subsequently to save my patient's life. I would be sorry to have a recourse to this method again.

Pressure is often employed to overcome chronic inflammation. It is of great value in well selected cases of pure tubercular synovial disease. I usually employ it in combination with Scott's dressing. This (Scott's) dressing is applied with strips of lint around the joint, and to secure pressure the part is surrounded with a mass of cotton wool, over which

is applied an elastic or cotton bandage, care being taken not to interfere too much with the circulation. The pressure should not cause any pain and it should be used only when recovery is taking place. The dressing need not be changed oftener than once a week if it does not irritate the skin. If it does it is better to depend on pressure alone. Pressure, Scott's dressing and a splint of leather, or of silicate of potash or of plaster of Paris may be used in conjunction with Thomas's splint with advantage. The latter splint alone does not ensure absolute physiological rest to the knee, so that it should be supplemented with one of the fixation splints above mentioned. The object of Thomas's splint is to relieve the joint of pressure by transmitting the weight of the body through the tuber ischii.

In my experience I never found young children to suffer much from confinement in the recumbent position, providing they got abundance of fresh air and a generous diet of easily-digested food. When the case has been so improved as to warrant the employment of a splint, I allow my patient to walk about on crutches, and live in the open air as much as possible. The amount and kind of exercise permitted depend to some extent on the joint affected. I always remind my patients that they are invalids, and that they must not join in violent games or engage in unduly-vigorous exercise, as the least injury may bring on a relapse.

Some surgeon's speak highly of Bier's method, which consists in producing venous congestion of the joint, in hope thereby to stimulate the growth of fibrous tissue, and so encapsule the tubercular area and prevent the spread of the disease. The circulation should not be entirely stopped, but the congestion should be maintained for from fourteen to eighteen hours out of the twenty-four, and the treatment continued for some time to effect any good. The treatment may be supplemented with advantage with an injection of glycerine emulsion of iodoform, and rest. I have had no experience with Bier's method myself. It is applicable chiefly in knee and elbow disease.

German surgeons speak well of an injection of a ten per cent. glycerine emulsion of iodoform into the joint. Here the tubercle bacilli are attacked directly. For obvious reasons, the use should be limited to pure synovial disease. The efficacy of the injection may be enhanced by first sterilizing the iodoform in carbolic acid and adding to the glycerine hydrarg. perchlor., 1 in 2000. The amount injected will depend on the joint and age of the patient. In children in knee-joint affection from one to four drams is enough, in adults double that amount may be used. The injection should be made directly into the pultaceous, gelatinous, tuberculous synovial membrane, and only a small quantity

of it into the joint cavity—two drams. The injection should not be repeated oftener than once a week, and when using it the joint should be immobilized to prevent excessive reaction. It may be used in tubercular synovitis in conjunction with rest and pressure, or Bier's method. I have not had much experience with glycerine injections of iodoform, but from what I have seen of it in the surgical wards of the Victoria General Hospital I am not favorably impressed with its use.

Cure cannot be expected to result from the foregoing measures if caseation (abscess) has occurred before treatment has begun. In these cases the most that can be hoped for by the expectant plan is an improvement in the symptoms. The formation of an abscess calls for operative interference. However, when treatment was begun in the early stage, prior to caseation, and if the symptoms improve under the expectant plan, it had better be continued for a year, or until every appearance of disease in the joint has disappeared. On the other hand, if, in spite of a fair and honest trial of these measures, the case goes from bad to worse, and the symptoms become aggravated, or if suppuration has occurred before the case appears for treatment the question of operative interference has to be considered.

The object of operative treatment is to remove all the diseased tissues and the tubercle bacilli.

Expectant and operative measures may be combined in some cases of tubercular knee-joint disease, as, for instance, when an abscess is present, but is not communicating with the joint cavity. The abscess may be dissected away—the ideal operation—but when this is impracticable its cavity should be well curetted and swabbed with pure carbolic acid, and irrigated with boracic acid or some other antiseptic solution, and the wound closed. This procedure may have to be repeated two or three times before a cure can be effected.

It is always better to remove tubercular tissues by clean cutting than by scraping, as the latter drives the tubercle bacilli into the tissues and enhances the danger of recurrence. I have found this mode of treating tubercular abscess very satisfactory. It is much easier to keep the wound aseptic by closing it up. This has been my experience.

Then, again, if an abscess is located in the head of the bone, trephine it and purify it in like manner. However, great care should be exercised not to open into the joint, and it should be immobilized at the same time.

There are three different kinds of operation performed for advanced tubercular disease of the knee-joint, viz. :—

(1) Amputation.
(2) Arthrectomy or erasion.
(3) Excision.

Which operation to perform in any given case must depend upon the local and general conditions present, as well as upon the age of the patient.

In weakly subjects, unable to stand the strain of a prolonged operation, and when phthisis is present, amputation should be the operation of choice; similarly, in amyloid degeneration of the kidneys and other organs.

Amputation is the least dangerous. In adults with extensive suppuration, about the joint, and when multiple septic sinuses are present; and in the young, when bone disease is extensive, and in cases of bad recurrences after excision and erasion, amputate.

When the disease has extented to caseation and the formation of abscesses, and the case is going from bad to worse in spite of expectant treatment, excision or erasion will have to be performed. Erasion or arthrectomy means the removal of all the diseased structures only while excision means all this and a formal removal of the articular surfaces of the bones forming the joint besides.

The important question for consideration is which one of these operations to perform in any given case. In deciding which to choose we should consider the following points:—

1. The relative dangers of the two operations.
2. The possibility of dissemination of the disease throughout the body.
3. The chances of recurrence of the disease.
4. The subsequent utility of limb as regards—
   (*a*) Motion.
   (*b*) Deformity.
   (*c*) Shortening.

Both operations are severe and prolonged. The danger in each is from shock and hæmorrhage. These are equal in the two operations.

There can be no doubt but that the danger of dissemination of the disease is greater after arthrectomy than after excision. The danger is enhanced if scraping is used instead of clean cutting. Scraping drives the tubercle bacilli into the bones and fibrous tissues.

With reference to the third point, I am convinced that recurrence is less likely to follow excision than erasion. Foci of inflammation are more likely to escape the attention of the operator in the latter than in the former operation. Diseased centres may exist under the margin of apparently healthy cartilages, in the inter-condyloid notch, and about the crucial ligaments, and be overlooked by the operator. Tubercular

deposits may be overlooked in excision, but the chances are very much less. The danger of a recurrence is therefore much greater after erasion.

The next point to be considered is the subsequent utility of the limb. The promoters of arthrectomy claimed that they could preserve motion in the knee-joint after this operation. However, after a fair trial they failed to preserve useful motion in the joint and now have abandoned the idea in toto. Then they admit that firmer and better union is secured after excision than after erasion. This brings me to another point, viz., deformity. There can be no doubt that the weaker the union obtained the greater the danger of flexion and deformity. The union obtained after erasion being less firm—chiefly fibrous—than after excision, the danger of flexion and deformity of the joint must be proportionately greater.

Now, with reference to the last question—the subsequent shortening of the limb. This question, no doubt, is very important especially in children. The future growth of the limb should not be interfered with in either operation if the epiphyseal line is not encroached upon. The mere performance of excision need not necessarily damage the growing cartilage unless the disease has extended up that far. The extent of the disease usually determines the amount of bone to be removed in these cases and not the operation, and whichever one is resorted to all the diseased tissues must be removed. even the epiphyseal cartilage if it should be involved. So that the subsequent shortening of the limb need not be much greater in the one operation than in the other.

It is admitted to-day by the promoters of arthrectomy that excision should be the operation of choice in knee-joint disease in persons over sixteen years of age. Under that age, however, many surgeons prefer arthrectomy, chiefly because they are of opinion that the danger of subsequent shortening of the limb is less, and that this alone should outweigh the disadvantages of the operation. They say excision should never be done in young children. I do not agree with them. The extent of the disease and not the operation must determine the subsequent shortening. In excision, the articular surfaces can be formally removed, even in children, without damage to the growing cartilages. I have often done it, and never had any cause to regret it.

I have done excision of the knee thirty-five or forty times, and the results obtained have been on the whole very satisfactory. No serious shortening occurred in any of my cases, and no deformity. In one case, a child seven years old, where the disease was limited to the synovial membrane, I performed arthrectomy, and I have always regretted having done so as the results were most unsatisfactory.

Discussion.

Dr. Hayes : I am not satisfied as to the primary relation of the tubercle bacillus to tubercular arthritis. I believe that primarily there is something wrong in the trophic centres or in the peripheral trophic nerves. I think in every case there is some established defect to deal with. In the early stage, I consider iron to be the remedy *par excellence*. If the iron is not assimilated, bismuth subgallate, 20 grains, with pepsin, 4 grains, before meals, and the iron taken after meals often has a decided effect. The good from climate is probably due to mental exhilaration, particularly moving from place to place. Often good results are obtained, even when tubercular foci are not all removed, by the production of leucocytosis. In cases of tubercular peritonitis after laparotomy reaction takes place, a new inflammation over peritoneum, and the patient often obtains good health. Here there is always a flooding of leucocytes.

Dr. J. W. Reid : I have seen the actual cautery give good results in Potts disease and in knee cases. Plaster of Paris is often good to ensure perfect rest. If an operation is necessary, the age of the patient should decide what operation. In a child, only remove the diseased tissues. Arthrectomy, I believe, is only recommended as necessary in most of these cases.

Dr. Chisholm : Simple incision into the joint is sometimes recommended, particularly as it is an easy operation. In many abdominal cases a cure results from simple incision ; why not also get a cure by a simple incision into the joint ?

Dr. C. P. Bissett : There is a difference of opinion whether pleurisy is always tubercular or not. Tapping often effects a cure where indication is tuberculous. One patient I tapped three times, and he appears to be cured.

Dr. Marcy : I have listened with much pleasure to the discussion. Some years ago I gave a good deal of attention to joint diseases, and reported one hundred and fifty cases treated by hyperdistention with three per cent. of carbolic acid, and then fixation in plaster of Paris. This was only a tentative study which led up to measures discussed this morning.

Dr. McKay : I would like to say a word in reply to Dr. Hayes. Tuberculosis begins in the knee-joint after a slight injury which the patient neglects, while after a severe injury the patient rests. When affecting the lung after bronchitis, perhaps following la grippe, lowered nutrition is the result and the bacilli get in. In tubercular peritonitis, no one can explain why operation cures ; this was found by mistake Dr. Hayes should not say that a new inflammation spreads over all the peritoneum; for, if that were so, likely the patient would die. I consider arthrectomy not worth mentioning.

CURRENT MEDICAL LITERATURE.

MEDICINE.

Under the charge of A. J. Mackenzie, B.A., M.B., Toronto.

MECHANICAL VIBRATION.

Pilgrim, of New York, discusses this subject in the Boston *Medical and Surgical Journal*, September 10th. He says that vibration is the most abounding and commonest force in the universe with which we are familiar, as witness heat, light, sound, etc. The effects it produces upon nerves are (1) stimulation, (2) sedation, (3) inhibition. Treatment should be localizied and applied between the transverse processes of the vertebrae, which are immediately over the posterior division of the spinal nerves that control directly or reflexly the nutrition of the diseased viscera or area. Every respiratory instrument should combine three distinct features, viz.: (1) Easy adjustment or change of stroke, (2) The localization of the treatment at a given point, and (3) Absolute rigidity of action. The results as stated are:

STIMULATIVE.

(1) When applied as a stimulant to the vaso-motor areas in the spine supplying particular organs, the volume and flow of blood to those viscera are thereby greatly increased.

(2) Nutritive processes are consequently improved.

(3) Secretion and excretion are also improved; elimination, the great desideratum in so many diseased conditions of the body, is also increased.

(4) Muscular and general systemic metabolism is enhanced, with greater oxidation and the production of more animal heat.

(5) Improvement in the respiratory function.

SEDATIVE.

Its sedative effects are marked in cases of general nervous irritability, excitability, fatigue and, very markedly, in insomnia.

INHIBITORY.

The inhibitory power of the mechanical vibratory stroke is demonstrated in the prompt relief of pain and in the dispersion of congestions or engorgements.

The foregoing enumerated effects follow (in varying degrees, of course) from the application of vibratory stimulation to the nerves of the spinal and sympathetic systems. There yet remain to be stated two of the most important physiological results that follow the application of mechanical vibration, which alone would entitle it to a high and important place in physical therapy. These are :

(1) The relief or relaxation of muscular contractures.

In such cases vibration is applied deeply to the affected muscle as well as to its spinal connections. This is done in order to directly excite or stimulate the independent nerve centres, which inhere in all muscular structure.

(2) The removal, through stimulation of the lymphatics and their glands, of many forms of tumors, enlargements, exudates and other products of inflammation ; also the relief of varicosities and the dispersion of many varieties of cutaneous eruption.

RESISTANCE OF TISSUES IN MANUAL REDUCTION OF CONGENITAL DISLOCATIONS OF THE HIP.

Bradford discusses this subject in the Boston *Medical and Surgical Journal*, September 3rd, and describes experiments made upon the cadaver to establish his conclusions, which are as follows :

(1) The resistance offered by the capsule to the correction of congenitally dislocated hips is not more important than that offered by the muscles.

(2) The chief resistance to forcible abduction is from the strong tendon of the adductor magnus.

(3) The resistance to pulling down the head comes from the hamstring group and the long tendon of the adductor magnus and ilio-tibial band.

(4) These resistant tissues can be overcome by small incisions at a distance from the hip.

(5) In the lighter cases manual manipulative reduction is sufficient

(6) In resistant cases, mechanical force which pulls upon and abducts the limb, arranged so as to also directly act upon the capsule, is of assistance.

(7) Where the tendon of the adductor magnus is so strong that an immoderate amount of force is needed in stretching, it would seem advisable to divide the chief resisting tissues rather than to incur the danger of severely bruising the tissues by the force used. The division of the tendon can be done either before the operation of forcible correction or at the same time.

A TWENTY YEAR TRANCE.

Marguerite Boyenval, of Thenelles, roused from her long sleep on May 26, five days over twenty years since she sank into her trance. She has been under the medical care of Dr. Charlier, mayor of Origny-Sainte-Benoite, and he found that she was becoming tuberculous. and attributes her awakening to the inroads of the disease. Her jaws were clinched, and her case was described as the "summun of the diathese d'contracute," with profound lethargy, mental inertia, and physical insensibility.. Her mother fed her during these twenty years by peptone rectal enemata, and through the gap of a broken tooth. A few months ago signs of returning sensibility were apparant. An abscess had to be opened, and the muscular contraction gradually subsided and consciousness returned. She was able to answer yes or no to questions, and exclaimed that the physician was hurting her when he took her arm, and asked for her grandfather who had long been dead. She was emaciated to a skeleton, and her weakness was so extreme that the physician advised absolute quiet; and she thus passed away. The *Gazette Médicale de Paris* of June 5 gives further details, describing especially her abundant blonde hair. The autopsy had not been made at the time.—*Journal of the American Medical Association.*

INOCULATION OF SYPHILIS.

In Roux and Metchnikoff's experiments upon the chimpanzee, they chose a syphilitic that presented both hard chancre, and a roseola. Two days before the date of the experiment all external and internal medication was suppressed; the patient was not allowed to wash his chancre with plain water. The chimpanzee selected was two years old and in perfect health. The first inoculation was made upon the scarified epidermis of the perpuce of the clitoris, with serosity that was made to exude from the chancre. A second inoculation, made at the same time as the first, was practiced upon the mucous side of the vulva, but the material for inoculation consisted of the *scrapings* from the chancre, and aside from epithelial cells; lymph, etc., blood was present. The process of these inoculations was made with the greatest possible speed, as if dealing with an extremely fragile microbe that was difficult to preserve.

Of the two inoculation above described only the second took, and twenty-six days after there appeared at the seat of scarifaction a small visicle surrounded by a red zone of congestion, which soon ulcerated and presented all the classical signs of a hard chancre. Following these lesions, there appeared in due time, a chain of indurated lymphatic

glands in the groin, and a papulo-squamous eruption on the skin. Eminent syphilographers, who examined this chimpanzee, unhesitatingly pronounced the case one of undoubted syphilis.

The untimely death of the animal under experiment, in Paris, has temporarily interfered with this work, and prevented the possible development of the later lesions of syphilis.—*The Post Graduate*, December, 1903.

SURGERY.

Under the Charge of H. A. Beatty, M.B., M.R.C.S., Eng.
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THE MOST RATIONAL OPERATION FOR HEMORRHOIDS.

In the *Physician and Surgeon*, September, Emil Ries writes on "The most rational method of operation for Hemorrhoids." The three methods of operating on hemorrhoids most employed at the present time, and most extensively presented in text books are: (1) clamp and cautery, (2) ligature and (3) injection. Ries thinks each of these methods open to serious objections. The injection method is the pet method of the quack, and its disasters are so numerous that it should be employed, or risked, by the reputable surgeon in only a very limited number of slight cases of internal hemorrhoids, and then only under rigid precautions.

In the cautery and ligature methods, the surgeon wilfully abandons the great aim of modern surgery, the primary union of wounds. By the cautery there is left an eschar, and by the ligature method, a mass of dead tissue, which comes away as a slough in larger or smaller particles, leaving an ulcerated surface from which secondary hemorrhage or septic absorption may occur.

An operation for hemorrhoids, which would more closely approach the surgical ideal, should have four qualifications: (1) It should lead to primary union; (2) it should be applicable to all combinations of external and internal hemorrhoids with or without inflammation; (3) it should preserve the natural configuration and function of the anus; (4) it should insure quick and safe recovery with little or no pain.

The writer thinks that the method which satisfies all these conditions is the excision and suture of the hemorrhoids. He does not mean the excision of the pile-bearing area, the so-called Whitehead operation, which for most cases of hemorrhoids is a needlessly extensive procedure.

Ries carries out the operation in the following way: On the second day before the operation, the patient is given half-an-ounce of sulphate

of magnasia, is put on liquid diet, and takes a hot bath, but need not enter hospital. On the day before the operation, the patient continues the liquid diet, enters hospital, takes a bath, and the bowels are washed out with soap-suds, and the patient is shaved. On the following day, the patient receives no breakfast and is put under a general anaesthetic. If the case is one of inflamed hemorrhoids, the whole preparation, except the liquid diet and the bath, is abandoned and the bowel is washed out and the patient is shaved when under the anaesthetic.

With the patient in the lithotomy position, the sphincter is gently stretched and the lower part of the rectum is flushed out with warm sterile water. The hemorrhoids, be they external or internal, inflamed or not, are now grasped one after the other with a simple artery forceps. The forceps is pulled on, and the hemorrhoidal nodule is encircled by two incisions in the longitudinal direction in the axis of the bowel. The nodule is then excised completely as deeply as necessary, and all thrombi that may be present are removed with it. Then a continuous running suture of fine catgut (preferrably cumol catgut) unites the wound—the stitches being placed close to the edges of the incision. The suture goes through the bottom of the wound and is carefully placed so as to leave no pockets. The suture stops all bleeding, so it is not necessary to litigate the small arteries.

After the removal of all hemorrhoids, there is no hemorrhage and no raw surface. The skin is dusted with an aseptic powder, an aseptic pad is placed over the anus, and the patient is returned to bed. The dusting is renewed frequently, at least every six hours, and powder applied copiously. Liquid diet is observed for the next three days. Patients who cannot urinate lying down are permitted to stand up, and the use of the catheter in male patients is avoided. Morphia is sometimes used the first few hours after the operation, never afterwards.

On the third morning after the operation, the patient receives a laxative, citrate or sulphate of magnesia, in small repeated doses, until the desire to move the bowels is noticed. Then the anus is covered thick with aseptic vaselin, over which the first evacuations take place. After each evacuation, the patient is douched off copiously with sterile water and the anus is covered with an ointment, consisting of lanolin and vaselin, in such proportion as to make a rather thick ointment. After the bowels have moved, the patient receives light diet.

From the fourth day on, the patient receives two tub baths daily, and at least every second day a bowel movement is obtained, a laxative being given if needed.

Beginning with the day after the operation, the patients are allowed to suit themselves as to getting up and walking around. From the fourth or fifth day, ordinary food may be eaten, but fruits or vegetables containing indigestible seeds should be avoided.

On the sixth or seventh day, the patient may leave hospital, and is instructed to see that the bowels move at least once a day and to take two baths a day for one week, and one bath a day after that.

Ries says that the results of this method of operating, with its quick recovery, and the absence of pain after the operation, have been most gratifying to himself and to his patients.

THE SURGICAL TREATMENT OF VARICES AND VARICOSE ULCERS.

"The Surgical Treatment of Varices and Varicose Ulcers," is the title of a paper by John Rodman in *The International Journal of Surgery*, December.

In pre-anæsthetic and pre-antiseptic days, the excision of varicose veins of the lower limbs was not considered justifiable. In 1845, Dieffenbach declared that while the operation was easy of execution, phlebitis followed by death was the usual termination. Burch, in 1857, declared that the pains of the operation and the uncertainty in regard to its efficacy counterbalanced the discomfort of the varicose veins.

Trendelenburg's operation, which consists in the ligature and excision of the saphena major vein, has given results unattainable by other modes of surgical intervention, and has gained a permanent place in surgery on account of its facility of execution and its proved efficacy. In some cases, however, the cure is not complete after Trendelenburg's operation, and in some cases varicose ulcers which have become cicatrized recur, so that a subsequent operation has to be done for the ligature of other veins which have become dilated.

In 1895, J. L. Petit did the first operation by circumferential incision. Rodman speaks highly of this operation, and thinks the incision is best made at the junction of the middle and lower third of the thigh, as here it avoids the extremely contractile poplitcal integument, and also avoids the external saphenous vein which, though often implicated, is never culpable. An incision made at the level of the saphenous opening is too extensive, and the cutaneous nerves are divided high up.

The incision should be made slowly and carefully so as not to endanger the larger veins, and to avoid cutting several large cutaneous nerves. It should be carried down to the aponeurosis fascia, and the veins dissected and ligated one-half inch above and below the incision

and excised between the ligatures. The incision is now closed and a dry dressing applied. The leg is bandaged with the knee well flexed, and the foot of the bed is elevated.

The patient is confined to bed for one week and then allowed to walk on crutches, with the leg bandaged to support the circulation. The leg should be kept bandaged for four weeks to protect the cicatrix and prevent oedema.

CHRONIC HYDROCELE.

In the *Los Angeles Medical Journal*, November, R. H. Burton considers the treatment of chronic hydrocele of the tunica vaginalis. In all cases of hydrocele, before attempting any form of operation, the surgeon should carefully determine the position of the testicle and cord. Should inversion of the testicle be present, the organ occupies the anterior part of the scrotum, and may easily be punctured by the trocar, while the vas deferens ascends along the front of the cord, and may be cut by the incision for radical cure.

In children, the old method of simple tapping and drawing off part of the fluid, with the injection of a few drops of carbolic acid, usually effects a cure.

In the adult, operative treatment by incision and drainage is almost always followed by infection, and a discharging sinus may last for weeks or months.

The method of dissecting out the sac is also open to serious objection on account of the traumatism produced and the danger of injury to the vas deferens, and because a large denuded surface is left open to infection. Although usually successful this operation is not ideal surgery.

The writer considers that the method known as "incision of the sac," and described as Doyen's operation, is much the best operation for chronic hydrocele. The operation is as follows: An incision of three to five centimeters in length is made over the anterior part of the tumor through the skin, dartos tissue and the sac. After most of the fluid has run out of the sac, it, with the testicle, is easily pulled out of the incision and inverted (turned inside out). Then any little secreting tubercles which appear on the surface are cut off, or better, destroyed by the cautery. Then the opening in the sac, which will now appear behind, is closed with three or four catgut stitches. After all bleeding is arrested, the testicle and sac are placed back in the scrotum. The serous surfaces will now be in apposition with the dartos tissue of the scrotum. The dartos fascia is now closed with a few catgut sutures, and a continuous subcutaneous suture is used to close the skin wound. A dry dressing is applied and the scrotum held up by a suspensory bandage.

OPHTHALMOLOGY AND OTOLOGY.

Under the charge of G. STERLING RYERSON, M.D., C.M.
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THE SURGICAL TREATMENT OF EXOPHTHALMIC GOITRE.

Max Ballin, *Detroit Medical Journal*, says the first excision of the gland was done by Watson, in 1875. Kocher has performed operations in over 2,000 cases, 57 for exophthalmic goitre. The rule of operation is, if internal treatment fails after a fair trial, if the symptoms are progressive, if the patient is losing strength and weight, the case should be turned over to the surgeon. Very bad cases, with high pulse rate, should be treated, by rest in bed to get the heart in better condition for operation. Cases should not be allowed to reach the extreme stage of cachexia, when even surgical interference cannot save life. There are two main types of operations; 1. Operations on the thyroid gland; 2. Operations on the sympathetic nerve. 1. Operations on the thyroid gland. Injections of iodine should never be done in exophthalmic goitre, on account of the great danger of embolism. Exothyropexy, which consists of freeing the gland and leaving it outside the skin to atrophy, is not recommended. Resection. If we have distinct nodules of the gland they should be enucleated singly. The operation most commonly preformed is the excision of one side of the enlarged gland. The larger side should be removed. A crescentic incision is made along the sterno-mastoid muscle and is dissected up. All vessels are ligated. The goitre is then freed from its capsule, a step which, on account of adhesions and hemorrhage, is difficult. The gland is pulled out more and more and finally tied off at the isthmus. This requires the thermocautery, or three or four stout ligatures. Suturing with, or without, drainage completes the operation. Ligature is the favorite method of Kocher. He usually ligates both superior thyroids and one of the inferior arteries. 2. Operations on the sympathetic nerve are done mostly after the methods of Jaboulay and Jonnescu, who employ sympathectomy in exophthalmic goitre, in glaucoma and hemicrania. The nerve is reached by a long incision along the border of the sterno-mastoid, and the ganglia found on the deep muscles. Some resect only the upper ganglia, others all three ganglia, or stretch the nerve or make an avulsion of the nerve. All these operations are dangerous, even in the hands of the best surgeons the mortality rate is 8 to 10 per cent. The anaesthetic plays a considerable part in this, hence Ballin uses the infiltration method of local anaesthesia of Schleich (Cocaine 1 per cent of which 4 to 6 ounces are well borne). The second danger is hemorrhage. All vessels should be ligated. Tam

onade and the thermo-cautery should not be used, if avoidable, on account of the danger if secondary hemorrhage. The third and most peculiar complication following these operations is "thyroidism." This means an exaggeration of the symptoms, which are referred to poisoning by the thyroid secretion. How are these post-operative symptoms caused? It seems that the peculiar nervous irritability plus the action of the thyroid poison are responsible. The symptoms are high pulse rate, 120 -160, increased respirations, great excitement, delirium, tremor, perspiration, diarrhoea, and, in extreme cases, attacks of tetany. These complications often end in death. Ballin's conclusions are: 1. Exophthalmic goitre is successfully treated by operation in a great majority of cases, 75 per cent. 2. The death rate is reduced to 6 per cent (Kocher) and, in cases operated on early, as low as 2 to 4 per cent (Rehn). 3. The principal dangers from the operation are, death from the anæsthetic, hemorrhage, and post operative thyroidism. 4. The question, whether or not operations on the thyroid are preferable to those on the sympathetic nerve cannot be decided until we have fuller statistics of results of sympathectomies at our disposal.

NEURASTHENIC ASTHENOPIA.

Goux, *American Journal of Ophthalmology* finds asthenopia following or accompanying neurasthenia, more common than is generally supposed. The term "neurasthenia" was invented by Baird in 1868 and embraces cerebral, spinal, cardiac, gastro-intestinal, and genital forms, according to the predominating group of symptoms. The cause is essentially heredity, and takes origin in the different diatheses. The diseases may also be due to shock, traumatism etc., but degeneracy forms the ground work. The head symptoms are usually prominent. Vision is nearly normal or even quite so, but there is difficulty and pain in continuous use of the eyes. In taking the fields of vision, the longer the tests continue the more restricted does the field become. The axis of astigmatism is constantly shifting and there is permanent fixing of the streak in using the Maddox prism. Variable astigmatism and uncertain muscular balance are pathomomonic. Color blindness is also said sometimes to be present. Patients complain of twitching of eye lids, lachrymation and neuralgia-supraorbital or ocular. Occasional blurring of the sight is much complained of. Experience shows that the condition is almost exclusively confined to young women, and is often mistaken for hysterical amblyopia. The refractive errors should be corrected. Constitutional treatment may be of some avail, but vigorous physical exercise in the open air and gymnastics indoors will be found most efficient.

YELLOW GLASSES FOR SHOOTING.

In Germany, a writer, whose name is not given, agitated this question several years ago. As a result, several batteries of artillery equipped their bombardiers with yellow glasses Exhaustive experiments were made in all kinds of weather and under different lights. Reliable data were obtained showing that, in any kind of weather and light, shooting was one third more accurate with yellow glasses. The artillery men could see the mark far better through the yellow glasses and the light was much less disturbing. The results were especially noticeable in a fog, in the dusk, and when the target, for other reasons was less clear. *Annals of Ophthalmology*, July, 1902.

NECESSARY ENUCLEATION OF THE EYE.

The conditions and diseases of the eye which make enucleation necessary, Erwin, *Opth. Record* maintains to be as follows: 1. A blind eye, which menaces a sound eye, should be removed without delay. 2. A nearly blind eye, which has set up sympathetic diseases of the other eye, should not be removed, barring disease of a malignant nature, it being good practice not to remove a diseased eye with some sight, even though a sympathetic affection is evident in the other eye. 3. Remove every lacerated eye with a ragged wound in the ciliary region, before it has time to establish sympathetic disease in the sound eye. 4. Remove every eye which contains a growing tumor before it involves the orbital tissues. 5. Eviscerate early in panophthalmitis.

REMOVAL OF THE FAUCIAL TONSIL.

Charles M Robertson, *Journ. Amer. Med. Assm. Nov. 28th, 1903.* Robertson reviews the history of tonsillar operations and passes to the practical consideration of the subject. He states that diseased tonsils may be divided into two classes. First, those which, by their enlarged size, produce mechanical obstruction, and, second, those which do not protrude into the pharynx, but which are diseased and produce injurious effects on the surrounding tissues, causing foci of infection.

In the first instance, a mere reduction in size might suffice, whether this be accomplished by excision or shrinking of the gland and in the opinion of the author, is the only place where the tonsillitome is permissible. As to the second class, those which it is impossible to remove with the guillotine, they form the majority of cases which come under the observation of the surgeon. The patient has a history of attacks

of tonsillitis and in some cases of beginning tuberculosis. It has been demonstrated beyond dispute that this gland, when diseased, is a means of infection. It is not hard to believe this if one observes the large quantity of putrid material which can be squeezed out of the tonsil. The part of the tonsil most productive of this process is to be found in the supratonsilar fossa. One is astonished to observe that many specialists believe that a diseased tonsil does no harm, when we are able to demonstrate that it continues to manufacture septic material in which exists virulent bacilli. He proceeds to state his objections to the modes of removal now in use and describes his modified procedure.

1. The Tensillotome. This is regarded by many as *the* way. The only place where its use is permissible, is in young children where the tonsils are so large as to encroach on the breathing space. The cases of dangerous hemorrhage so often reported occur from use of this instrument. The contents of supratonsillary fossa cannot be removed by this instrument.

2. The Snare. A good method but too slow. Hemorrhage is not so great as in cutting methods but still severe bleeding occurs at times.

3. The Galvano-Cautery. The main objection in this operation is loss of the half of the anterior pillar and the danger of middle ear inflammation. Each burning leaves the patient with a sore that is a tedious operation, very bloody and leaves a rough surface.

5. Scissors. After trying all other modes of operation the author has come to depend on this method. After loosening the tonsil in its bed, the tonsil is removed with two or three snips of the scissors. He uses a special curved scissors for the purpose. After a years observation he is satisfied that this is a happy solution of the difficulty. He has not had any difficulty in controlling hemorrhage by dissecting out a bleeding vessel in the fibrous tissue of the tonsil. The vessel then contracts.

(My own experience is that no one method meets the requirements of all cases, scissors, tonsillotome and dissection may each be needed to meet the peculiarities of various cases. In non-operative cases I have found that galvano-puncture and injection of a solution of iodine and iodide of ammonium meet the necessities of the case. To prevent hemorrhage I have always at hand a supply of gallic acid which I apply liberally to the cut surface, if required. G. S. R.)

STENOSIS OF THE LACHRYMAL DUCT.

In the *St. Louis, Medical Review, Nov., 1903.* Buckwalter draws attention to the causes of stenosis of lachrymal duct and mentions congenital malformations in infants, lack of development, hypertrophic swelling of the lining mucous membrane, malposition of the puncta, and inflammation of the lachrymal sac. Excessive secretion of tears is also a factor in the production of epiphora. He had recently met with a case of graves disease in which this was an early symptom. He calls special attention to the part played in obstruction by the nasal duct. Pathologic conditions in the nose play an important role in the genesis of lachrymal disease.

There is an intimate association existing between the venous circulation of the nasal cavities and the appenadages of the eye, especially the lachrymal ducts. In many cases of excessive lachrymation an inspection of the nasal cavities reveals a hypertrophic condition of the turbinates and general thickening of the mucous membrane of the nasal cavities. In atrophic rhinitis there is often a persistent epiphera due to the accumulation of theacious crusts at the outlet of the canal. Since the starting point of so many cases of lachrymal obstruction is to be found in the nose, particular attention should be paid to the treatment of the nasal passages. In acute cases astringent and sedative agents should be applied both to the eye and nose, such as two per cent. solution of cocain and suprarenal extract followed by a one per cent. solution of nitrate of silver and a spray of liquid vaseline containing menthol, camphor and oil of sandal wood. In the eye a one per cent. solution of suprarenal extract and alum or zinc sulphate should be instilled every two hours. In chronic hypertrophic conditions it is often necessary to resort to surgery, the removal of hypertrophies or polypi. In atrophic rhinitis frequent cleansing is necessary. At the same time probing and the use of the lachrymal syringe should be followed.

LARYNGOLOGY AND RHINOLOGY.

Under the charge of PERRY G. GOLDSMITH, M.D., Belleville.
Fellow of the British Laryngological, Rhinological, and Otological Society.

THE TECHNIQUE OF MAXILLARY SINUS OPERATIONS.

Holbrook Curtis in the October *Laryngoscope* has a valuable contribution to this question. Having satisfied himself that the antrum disease is not a secondary complication of a frontal sinus, inflammation, or of disease of the anterior ethmoidal cells, and that the cavity has not become merely a reservoir of pus from above, he seeks to determine the following points: (1) Is a diseased tooth the cause of the antrum trouble. (2) Is the discharge of recent origin (acute). (3) Has the suppuration

been of so long standing that the mucous lining of the sinus is affected (chronic). It is the determination of these points that indicates the choice of treatment.

For irrigation purposes in acute cases he finds tr. iodine ℥1, acid carbol ℥ss in a pint of sat. sol. of boracic acid of decided value. When alveolar puncture is used it is not for drainage and Curtis says never should be for any other purpose than to investigate the condition of the antrum and if this decides one in supposing he can cure his case by irrigation the puncture becomes simply the socket of the syringe tip. The author strongly deprecates simple measures in treating cases of chronic antral suppuration, such as intra-nasal irrigation, irrigation through an opening in the canine fossa or through a tooth socket. He says "These methods are described for the benefit of the timid members of our cult who should be characterized as spraying rhinologists (a good term). The nimble-fingered specialists condemn all methods which cause pain; they reduce enormous tonsils by absorption with astringents and remove adenoids with sprays. Frontal sinus and antral disease do not disturb these gentlemen for they refer the patient back to the general practitioner for the cure of the frontal neuralgia and the tic-douloureux, while they still continue to treat the "catarrh."

THE USE OF ANTITOXINE IN THE TREATMENT AND PREVENTION OF DIPHTHERIA.

R. D. Rudolph, Toronto (*Brit. Med. Jour.*, May 9), has a very instructive article on this subject. He believes every case should be treated with antitoxine as early as possible, and at least 3,000 units should be an average initial dose. Should one not care to make a positive diagnosis from the clinical appearances, he should inject the serum at once, and if the bacteriologist says it is diphtheria, one has stolen a "march" of several hours on the disease, which may mean the saving of the patient's life, while, if it is pronounced non-diphtheritic, no harm has been done. All medicinal or other treatment is considered of secondary importance during the first few days of the illness. The author is firmly convinced of the value of antitoxine as an immunizing agent, and quotes the condition of affairs in the Hospital for Sick Children, Toronto, which strongly prove his contentions. Five hundred units is the ordinary immunizing dose, but 300 seems to be sufficient for children under two years of age. This immunizing dose should be repeated at least every three weeks while any danger of infection lasts. The reviewer of this article in 1896, in the same Institution, carried out the immunizing process, and, while the number of units found necessary was somewhat larger, the effect was, so far as further contagion was

concerned, quite effectual. (*Can. Lancet*, July 1896.) Quite recently, too, in one of the Government institutions, nearly 300 children were immunized, which was the only way of checking the diphtheritic contagion present. In the later instance, 1000 units was mostly employed, and showed, beyond all question of doubt, the great power a physician has at his command to prevent diphtheria; and preventive medicine is the product of the age.

TONSILLOTOMY.

Steers (*N.Y. Medical Record*, Oct. 3rd) recommended the use of a hook-like knife, modeled from a strabismus hook, with a longer and stouter handle, and with a knife edge on the concavity and end of the hook. The finger of the operator is passed over and around the tonsils to detect any pulsating vessels, and the lower tonsil is seized with a volsellum and drawn toward the opposite side. The hook knife is then passed between the tonsil and the anterior pillar, just beneath what he calls the basement membrane of the tonsil; care being taken that it is not passsed into the tonsil mass. The finger of the operator is then introduced into the wound, and making sure that pulsating vessels cannot be felt, and using the finger as a blunt dissector, the mass is turned out, leaving it attached to the posterior pillar and by mucous membrane only which is then divided. When removed, the base of the tonsil will be found to be covered by a thin membrane, and the dissection has been carried on entirely outside the tonsil. The other tonsil is then treated in the same way. After the wounds were healed, it will be found that the pillars of the fauces stand out in their proper position and their muscles act freely. There will be no return of the tumor, and haemorrhage may be avoided by careful and thorough dissection.

ADENOID GROWTHS WITH SPECIAL REFERENCE TO ADULT CONDITIONS.

James E. Logan summarises an excellent paper on this subjects as follows (*Laryngoscope*, Nov., 1903):

(1) Importance of early recognition of adenoid growths in children by the general practitioner. (2) Prompt removal when so extensive as to interfere with the development of the child, and especially when the patient has been exposed to any of the exanthemata. (3) When present in patients suffering from the above eruptive diseases, attention must be directed to proper disinfection of the pharyngeal vault. (4) *In patients exhibiting enlarged faucial glands, there generally exists hypertrophies in the vault.* The reverse condition does not always obtain. (5) Hypertrophies of the pharyngeal glands in adults is not a rare condition and, as a rule, is dependent on pathological changes

during childhood and not developed during puberty. (6) Operative interference is warranted in every instance, not only to relieve existing dependent conditions, but to prevent impending complications.

THE PREVENTION OF THE RECURRENCE OF NASAL POLYPI.

Dr. Eugene S. Yonge, in *The Lancet* for November 7, 1903, enters into a discussion of the causes for the recurrence of nasal polypi after their removal, and also how best to avoid this misfortune, Polypi arise usually in the region of the middle meatus, from the concavity of the middle turbinated bone, from the lower part of the infundibulum, the uncinate process, or the bulla ethmoidalis. When all visible polypi have been removed from the nose, others may still be packed away in the recesses under the middle turbinal, and may rapidly enlarge and develop after the pressure has been removed.

Polypi tend to return so long as any polypoid tissue is left, so that the removal of all such residual tissue which may be visible with forceps, snare, galvano-cautery, or chromic acid, is a necessary part of the treatment. The complete cauterization of the pedicles of the excised growths is requisite, but is often difficult to carry out. The coincidence of polypi with suppuration in the accessory sinuses, especially the ethmoidal cells, is common. Some think that nasal polypi are always due to such suppuration, but this is not the case. It has been noted that there is usually disease of the underlying bone, such as osteitis and periostitis of the ethmoid. Polypi are therefore the outcome of bone disease, and not independent growths. This view is borne out by clinical experience When there are only a few polypi their removal by the snare may effect a cure. If there are many polypi, it will be necessary to expose the parts from which they grew and cut away the diseased tissues. To do this, a considerable portion of the middle turbinate body may have to be removed.

LARYNGEAL TUBERCULOSIS.

Solis-Cohen recommends the following combination :

℞ Orthoform—
Anesthesin ..... āā ʒi.
Ext Suprarenalis—
Iodoformi..... āā ʒii. ℳ

Sig. To be insufflated into the larynx, especially when painful ulcerations are present, and topically he advises the following :

℞ Guaiacol..... ʒiiss.
Menthol..... ʒi.
Olei Olival..... ʒvi. ℳ

Sig. Apply locally after application of cocaine sol.

PROVINCE OF QUEBEC NEWS.

Conducted by MALCOLM MACKAY, B.A., M.D., Montreal.

Dr. Wesley Mills delivered a lecture, illustrated by lantern slides, at the fourth regular meeting of the Montreal Medico-chirurgical Society, on the neurone doctrine, considered anatomically, physiologically, and pathologically. The lecturer proceeded from simple diagrams illustrating the primary concept, to the more complicated pictures of the neurones connected with the special senses. He demonstrated the results of degeneration, together with the methods by which these degenerations were detected, and the means by which they could be explained upon the basis of the neurone theory. He also showed plates in which the ends of one axone apparently passed into and came into actual contact with another cell body. This condition of things he thought had been seen and confirmed by so many observers as to be practically unquestioned at the present day. Nevertheless the original idea would require but little modification to cover the facts recently established. No mention was made of Ballance and Stewart's work on the regeneration of nerves, but from the general trend of the remarks one judged that Dr. Mills held the views of the majority of English neurologists, namely that the results obtained by these experimenters are fallacious. At the close of the address Sir William Hingston thanked Dr. Mills for his able and instructive lecture, and lightly touched upon the advances made in physiology between the time of his student days and the present.

Dr. Elder reported a case of sarcoma of the small intestine removed from a man aet. 30. The patient, who was shown to the members, was admitted to the General Hospital complaining of pain in the abdomen, and giving the following history. For the past ten years he has suffered from occasional attacks of abdominal pain resembling appendicitis. One year ago while in perfect health he had a sudden haemorrhage from the bowel which was repeated five times within a few days. He made good recovery, but in April he had another series of four similar haemorrhages, and in May he entered the medical wards of the Montreal General Hospitial for a recurrence. By this time he had lost 21lb., complained of poor appititte, had evening rises of temperature, and was decidely anæmic. Physical examination was negative and examination of the stools showed no signs of tuberculosis. He was put on light diet and rest in bed, and in a few weeks left the ward weighing 123 lbs., being a

gain of 14 lbs. since admission. In July he again appeared and was admitted to the surgical side, complaining as before, of abdominal pain, but now associated with nausea and tenesmus on going to stool. The lower part of the abdomen was somewhat rigid and tender on the right side. Tenderness was also marked on rectal palpation, although no mass could be felt. The history and physical signs led to a diagnosis of appendicitis and operation was at once performed. Free fluid was found in the abdomen but no signs of peritonitis. Attached to the wall of the pelvis was found a mass about the size of a cricket ball which arose from the small intestine about five inches from the ileo-cæcal valve. It was cystic in nature and was covered with large blood vessels. No glands were enlarged in the mesentery and the tumor was excised and the gut closed. The patient made a good recovery and has now regained his normal weight. The tumour on microscopic examination turned out to be a spindle celled sarcoma.

Dr. Buller read a paper on blindness caused by wood alcohol, and added three cases to the rather meagre literature on the subject. The first case was a young who by accident swallowed abont one wineglass-full of wood alcohol and oil of wintergreen, which had been prescribed as a liniment. She was very sick afterwards and complained of headache, but in addition became totally blind within a few hours. Two weeks later there was some improvement so that she could count fingers at three feet, but there was a well marked central scotoma, and vision for green was completely gone. Two months passed under treatment with nitroglycerine, strychnine, and pitocarpine, with no improvement.

The second case occurred in a man who drank a wineglassful of wood alcohol by mistake. He complained of severe headache shortly afterwards and next day he was compelled to give up work on account of dimness of vision. This became very rapidly worse and he remained stone blind for ten days. The disks showed distinct primary optic atrophy. He improved only slightly under treatment.

The third case was a man aet 42, who on three successive days took a wineglassful of wood alcohol. After the third dose he went out on a hunting expedition and on returning in the evening found that his sight was failing, and woke up next morning absolutely blind. As in the other cases treatment was of little avail and when lest seen the patient's vision was only slightly improved.

Dr. Buller emphasized the importance of bringing these facts before the public because wood alcohol was coming into such general use throughout the country. Cases of the kind he had mentioned were becoming more frequent every day, and it was time that a warning was

sounded. He thought that by government authority a label should be placed upon every bottle of this spirit, not merely a poison label, for this might tempt suicides, but one which stated that blindness would result from drinking the contents, this would certainly prevent its use with suicidal intent. Dr. Kerry was pleased that the speaker had brought the matter up, and suggested that one of the reasons why blindness from this cause had become more frequent of late was that the amount of wood alcohol in the ordinary methylated spirits had been increased from 10 per cent. to 45 per cent. quite recently.

The regular quarterly meeting of the Board of Governors of the Montreal General Hospital was held in November last. The president reported that the revenue for the nine months ending September 30th amounted to $90,839, and the expenditure for the nine months to $77,724, an increase in expenditure over the same period of 1902 of $3,758. The medical superintendent read a report of the work of the hospital, both indoor and outdoor. During the quarter 793 patients were treated to a conclusion. There were 55 deaths of which 24 occurred within three days of admission, making the mortality rate for ordinary hospital cases 3.1 percent. The average detention per patient was 21.9 days as against 23.8 days for the corresponding quarter of 1902. The ambulance responded to 379 calls as compared with 320 in the quarter of 1902. At this meeting Dr. D. A. Shirres was appointed neurologist to the hospital, and Mr. Hugh Graham was elected to the committee of management in place of the late Mr. Samuel Finley.

Dr. Armstrong raised the question of the lack of accommodation in the hospital, and was supported in his remarks by several speakers both in regard to the needs of the public and private patients. The matter was referred to the consideration of the board of management.

At the annual meeting of the Montreal Maternity Hospital it was announced that the committee had decided in view of the crying need for a new building, and of the very considerable reductions which it had been found possible to make in the proposed plans, by leaving off one wing for the present, to proceed with the piling and preparing the foundations so that the erection of the walls could begin in the spring. The site has already been paid for and with $53,000 on hand, the funds seemed to be sufficient to justify commencing the work on the modified plans.

The lady superintendent's report on the training school for nurses stated that the applications had been 82 during the year of whom 13 were graduates of general hospitals. Twelve nurses graduated, five having taken the full course and seven that of four months. It was

also stated that a scheme had been considered whereby nurses of the General and Royal Victoria Hospitals would receive obstetrical training at the Maternity as a part of their three years course. The carrying out of such a plan would be of great advantage to the three hospitals as well as to the nurses themselves.

The thirty-third annual dinner of the faculty of medicine of Bishop's College was held at the Place Viger Hotel on December 4th. The dinner was largely attended, not only by students and graduates, but by the members of the teaching staff and representatives from other universities.

The toast list, which was long, was introduced by Mr. Crutchlow, president of the student body, and after "The King" had been honored, the toast to "Alma Mater" was proposed by Dr. Hall. "Dean and Professors" was introduced by Mr. Donnelly. Dr. F. W. Campbell, dean of the faculty, in responding, traced the growth of Bishop's College from its commencement thirty-three years ago when it had started with one student. Dr. Macphail proposed "Our Guests." Hon. J. G. McCorkill, Sir W. Hingston, Lt.-Col. Burland, Dr. Wilkins, and Dr. Armstrong replied. "Sister Universities" was proposed by Mr. J. J. McGovern, and replied to by the following: Toronto, Mr. Hughes; Queen's, Kingston, Mr. Costello; McGill, Mr. Miller; Lennoxville, Mr. F. J. Plaskett; Laval, law, Mr. Lamarche; medicine, Mr. Choquet; dental, Mr. Faulkin, and pharmacy, Mr. W. H. Chapman.

Songs were rendered by Messrs. A. E. Wilson, Langlois and Choquet. Drs. Robt. Wilson, F. W. Gilday, W. H. Drummond and Mr. McLaughlan gave recitations.

The following are those who occupied the table of honor: Sir Wm. Hingston, Hon. J. C. McCorkill, Lieut.-Col. Burland, J. H. Burland, Rev. Prof. G. Abbot-Smith, Dr. W. Grant Stewart, Dr. A. Lapthorn Smith, Dr. H. L. Reddy, Dr. H. H. Drummond. Dr. Geo. Wilkins, Dr. F. W. Campbell, Dr. James Perrigo, Dr. J. E. Armstrong, Dr. Andrew Macphail, Dr. Frank R. England.

At a meeting of the Faculty of Medicine of McGill University, Dr. Klotz, of Ottawa, was recommended to the governors for appointment as Governors' Fellow in Pathology at McGill. Dr. Klotz is a graduate of Toronto University, and for some time past has been conducting researches in bacteriology at the Ottawa Isolation Hospital. The appointment will officially be made at the next meeting of the board of governors.

Dr. D. A. Sherres has been appointed neurologist at the Montreal General Hospital.

MARITIME TOPICS AND NEWS.

Conducted by W. D. Forrest, M.D., C.M., B.Sc., L.R.C.P., Lond., M. R. C. S. Eng., Halifax.

NOVA SCOTIA BRANCH BRITISH MEDICAL ASSOCIATION.

The annual meeting of the above branch was held in the Halifax Hotel on the evening of October 28th, Dr. George M. Campbell, President, in the chair.

The report of the retiring Council showed the average attendance for the past session to be eighteen. The death of Dr. Andrew Halliday and the loss sustained by the branch thereby was also mentioned. The meeting then elected the following officers for the ensuing year: President, F. W. Goodwin, M.D.; vice-president, C. Dickey Murray, M.B.; secretary, W. D. Forrest, M.D. (re-elected); treasurer, A. I. Mader, M.D. (re-elected); branch council, A. C. Hawkins, M.D., M. Chisholm, M.D., James Ross, M.D., T. J. F. Murphy, M.D., T. W. P. Flinn, M.D., Thomas Trenaman, M.D., and G. M. Campbell, M.D. Surgeon-Major Peeke, R.A.M.C., was elected as the branch's representative on the Council and Parliamentary Bills Committee.

On November 11th the branch held a clinical meeting at the Halifax Hotel.

Dr. Hawkins presented a case of chorea. Previous to the chorea developing there was no history of rheumatism, but rheumatic symptoms arose one week after the muscular twitchings were observed. The knees and elbows were then affected. There was no heart lesion, and nothing in the history to explain the cause of the trouble.

She was first on salicylate of soda and then on the elexir lacto pepsin, with iron, quinine and strychnine, together with three minims of liquor arsenicalis to the dose. She was now practically free from the movements.

Dr. Hawkins also presented a case of Friedreich's or hereditary ataxia. The patient was a young girl, and exhibited all the more common symptoms—absence of the patellar reflex, lateral curvature of the spine, pes cavus and uncertainty in gait.

Dr. F. W. Goodwin presented a case of a man who was passing uric acid calculi, and whose urine contained sugar. On opium the sugar disappeared. After this he was on piperazine 15 grs. three times a day, alternating with a mixture of pot. bicarb and tr. hyoscyamus. The gravel ceased, and his general condition was much improved.

Dr. Goodwin also showed a case of congenital syphilis in a young lad. There were two marked syphilitic teeth—the two upper central incisors—periostitis of the left tibia, and a breaking down gumma in the upper eyelid. The patient was on ung. hydrarg locally and cod liver oil internally.

Major Peeke then presented the following interesting case :—

The patient, an artillery man, first came under observation on May 11th last. He complained of pain in the chest, and had a cough with copious expectoration.

There was a pleuritic friction sound on the right side. On May 16th there were signs of fluid on the right side. On May 19th he coughed up an abundance of pus, which contained many streptococci and staphylococci.

The pleura on the right side was then opened, and on exploration a localized abscess cavity was reached. This was drained, and on August 1st he was discharged from hospital. Some days later, after a violent fit of coughing, he brought up what appeared to be a fish bone. There was a history of his having swallowed a fish bone many months previous to this while in Portsmouth.

The symptoms immediately subsided after bringing up this foreign body. Major Peeke thought there was in all probability a communication between the abscess cavity and the bronchus on that side.

The next case shown by Major Peeke was the cervical spine of a soldier who had fallen out of bed while intoxicated and fractured the spine of the fifth vertebra.

When first seen he complained of tenderness and pain in the neck. No displacement could be noted. There was paralysis of the lower extremities. No temperature. He died in the course of six hours. On post mortem there was hæmorrhage and inflammatory effusion into the dura mater. The cord was not much damaged.

Dr. D. A. Campbell presented a case of lupus vulgarus that had been treated and cured by the x-rays. Photographs exhibiting the disease in various stages were handed around.

Dr. Campbell showed a quart preserve bottle filled with round worms. The same had been vomited up by a colored woman who had previously manifested no symptoms.

A vote of thanks was given to Major Peeke for the interest he has always manifested in the society since his coming to Halifax. The Major leaves in January for England, his term of service on this station having expired.

The next meeting of the branch was held at the Victoria General Hospital on the evening of November 24th. Dr. D. A. Campbell ex-

hibited three cases of rheumatoid arthritis in children. Case A.: a female child aged seven—puny and ill developed—giving a history of chronic progressive joint lesions extending over a period of two and a half years.

The case conforms in almost every particular to that type of the disease described by G. F. Still in Allbutt's System of Medicine. In addition to very great involvement of the articulations both big and small, there is some enlargement of the spleen, glandular enlargement not marked, but showing in the epitrochlear and inguinal groups, and more or less fever. For the past six months fever has been rarely absent. There is marked wasting of the muscles, but not the marked joint changes seen in the ordinary cases of rheumatoid arthritis.

The outlook in these cases is not very promising. The condition generally develops before the second dentition and seems to be more common in girls.

Case B. A boy, aged 14, who has been ill with the disease for about fifteen months and is still unable to walk.

Case C. A girl, aged 16, who has been disabled for the past three years. The two latter cases resemble the disease as seen in adults.

Both are doing well under the hot air treatment.

Dr. C. Dickey Murray exhibited two cases. The first was one of the ascending part of the arch of the aorta. The patient had been ailing for six months.

He came to the hospital complaining of shortness of breath and general weakness. Never had syphilis, but had at one time been a heavy drinker. The interesting feature of this case was the marked delitation of the veins on the left side of the chest and arm due to obstruction to the left inominate vein and to the vena azygos minor. He was improving on potassium iodide and tr. ferri perchlor.

The second case was one of splenic anæmia. The patient suffered from loss of strength, great enlargement of the spleen and anæmia. Examination of the blood showed a diminution in the number of the red corpuscles and a proportional diminution in the hæmoglobin.

This patient was on Fowler's solution and potassium iodide as he gave a fairly clear history of having had syphilis some years previous.

Dr. James Ross showed a man having an ulcerative syphilide on the right side of his nose. Dr. Ross gave the differential diagnosis between this condition, lupus vulgarus and rodent ulcer.

Dr. Chisholm exhibited a man who had suffered from a compound fracture of frontal bone, caused by the kick of a horse.

When seen first the bone was protruding for about half inch and was splintered. The bone was freely moveable. Dr. Chisholm fixed it

in position by driving a piece of galvanized iron down through the external angular process of the frontal bone and into the malar. The result obtained was a good one.

Dr. Chisholm then showed a case of double talipes equino-varus that was successfully operated on by him. Operation: The knife was entered one-half inch below and a little to the front of the tip of the inner malleolus. It was then pushed forwards, sideways till it reached the tendon of the tibialis anticus. It was then turned and the tendon cut. At the same time the tissues beneath were cut to the bone by raising the handle and sweeping it forward till the blade cut all the ligaments and lastly the tibialis posticus just as the knife was to be withdrawn.

After this the meeting adjourned to the large dining room of the hospital where supper was served.

PERSONAL.

Dr. H. M. Hare has removed his office from Agricola Street to 35 Hollis Street.

Dr. D. G. J. Campbell (Dal. Univ., 1902) is taking a post graduate course at Johns Hopkin's University, Baltimore.

Dr. Monson J. Wardrope has opened an office at Springhill. Dr. Wardrope was formerly at New Campbelltown, C. B.

Dr. D. T. C. Watson, a recent house surgeon at the Victoria General Hospital, has opened up an office on Spring Garden Road.

Dr. J. A. McKenzie, assistant medical superintendent at the Nova Scotia Hospital for the Insane, was recently married to Miss Gentles of Dartmouth.

The death took place at 303 Pleasant St., on December 7th, of Mrs. Lowerison, wife of Dr. E. H. Lowerison, of Halifax, The doctor has the heart-felt sympathy of all his friends in the medical profession.

Dr. Kenneth A. Mackenzie, late house surgeon at the Victoria General Hospital has opened an office for the practice of his profession at New Campbelltown, Cape Breton. Dr. Mackenzie was gold medalist of his class at Dalhousie.

Major Peeke, of the Royal Army Medical Staff, who has been stationed in Halifax for some years past, leaves for his home in England in January. Major Peeke will be much missed by his friends in the medical profession. While here he always showed an interest in medical matters, attending regularly the meetings of the local society and taking part in the proceedings. The N. S. Branch of the B. M. A. showed their appreciation of him by appointing him their representative on the General Council and Parliamentary Bills Committee.

MEDICAL SOCIETIES AND GATHERINGS.

TORONTO MEDICAL SOCIETY.

Stated meeting, November 5, 1903.

The second meeting of the 25th Session of the Toronto Medical Society was held in the new medical building, Toronto University, at 8.30 p.m. The president and first vice being absent, the chair was taken by Dr. Bryans and the second vice-president.

The minutes of the last meeting were read and adopted.

Dr. McIlwraith read the paper of the evening, "Forcible Dilatation of the Os Uteri."

He divided the subject into two heads. When and How. When. (1) In labors that do not depart much from the normal type except in point of the time limit; or when a mal-position is present; or in which there is an early escape of the water. In these cases the patients and parts are normal.

(2) In cases in which dilation is not so much a matter of election as one of necessity. As in eclampsia, accidental hemorrhage. In these cases we are dealing with patients who are in a pathological condition and with uteri that are in an abnormal condition.

(3) In abortion and premature labors.

(4) In placentia previa.

How—(1) Manually.

(2) By bags Champetier de Ribes, Barnes, Voorhees.

(3) Metal dilator as Goodell, Bossi, etc.

(4) Drugs, cocaine, etc.

The dangers mentioned were sepsis, shock, hemorrhage, laceration.

Discussion. Dr. Oldright asked if cocaine soln. would stand boiling? What strength was used and how applied? He described Molesworth's bags.

Dr. Moore asked how much cocaine soln. was taken up by the pad?

Dr. Carveth discussed the metal dilators and the effect of anaesthetics.

Dr. Hay thought the Champetier de Ribes bags would stand boiling as rubber gloves did, and said that they would dilate the uterus more than the cervix.

Dr. Webster said that the bags would push the presenting head away. Prior's metal dilators would not slip. The two index fingers would often do better than two on one hand.

Dr. Freel asked if there was any benefit from very hot douches?

Dr. Bascomb said that the occasions were very rare where there were severe pains and good contraction and no effect upon the cervix. The use of a sedative would often act very well.

Dr. Bryans related a case where the use of chloral had allowed the patient to go on for a month before confinement.

Dr. G. B. Smith said that even very slow manual dilatation would produce laceration at times. He asked if it was good practice to repair cervical laceration during the bearing period?

Dr. A. Fletcher said that the greatest obstacle to manual dilatation was the presence of old scars which would almost invariably tear again. He related a case in point.

Dr. Smith said that time was the best dilator.

Reply. There was danger of laceration from stripping the cervix back after the forceps were on. It was difficult to tell the quantity of cocaine used, and there might be danger from absorption. Dr. Carveth had said that the use of dilators had forced fluid through the tubes into the abdomen. This was new to him. It required prolonged boiling to sterilize the bags and they would not stand it. Hot douches did harm by removing the vaginal secretions.

THE CANADIAN MEDICAL PROTECTIVE ASSOCIATION.

The following are the reports of Mr. Chrysler, the Solicitor, Dr. Powell, the President and Dr. J. A. Grant, the Treasurer. They show the good work of the Association, and its claims upon the medical profession.

OTTAWA, Sept. 16th, 1902.

To Dr. R. W. Powell, Chairman of the Executive Committee:

DEAR SIR,—At your request, I beg to report briefly with regard to the litigation of the Association during the past year.

In the month of January last, I received instructions from you to act as solicitor and counsel for the Association, and to consider generally the position which the Association should take with reference to claims against its members, and to defend pending cases when required.

The first case in which a claim was made was on an action brought against Dr. Thomas Norton, of Shelbourne, Ont. It was decided to undertake the defence of Dr. Norton's case, and, later, of the case of Dr. Telford, of British Columbia.

The case of Dr. Norton has been proceeded with to the completion of the pleadings, which were closed some time about the 15th May. Since then, no proceedings has been taken, and I do not know whether it is the intention of the plaintiff to go on with the case or not.

The next court at Orangeville will not be held until November.

In the case of Dr. Telford, in British Columbia, the Board had not received notice from Dr. Telford that proceedings had been taken against him until he had already instructed a solicitor to conduct his defence. It was thought advisable, under the circumstances, to write to Dr. Telford that the Board would assist him in his defence and would allow the solicitor to continue to act in the case for them as well as for Dr. Telford. I have not heard recently anything about this case and am not aware whether further proceedings have been taken. The long vacation in British Columbia is just over, and it is possible that this suit may again become active.

I think it is possible that the Association may become a very valuable means of assisting the members of the medical profession from oppressive, and, in some cases, disastrous, actions which usually are brought by irresponsible men. It is desirable, however, that the Association should be fully supported by the profession, and that an organization should be completed, covering the different provinces. In every case, it should be possible for the Board of the Association to correspond with some reliable and leading member of the profession in the district in which a case arises, and obtain from him an impartial opinion as to the character of the member attacked, and the propriety of the Association undertaking the defence.

Your Board has not sufficient experience to speak confidently as to the success of its work, but it is, I think, highly probable that the best result of the existence of the Association will be in the deterrent effect it will have upon plaintiffs without means, who seek to recover money from members of the profession for alleged mal-practice, and which, in many cases, would be paid through fear of the injury to the physician's professional prospects.

If your Board is re-appointed and desires my assistance for another year, I shall be glad to meet with them at an early date and assist in preparing a set of regulations covering doubtful questions, as these can be much better dealt with upon some general principle before special cases arise.

Yours truly,

(Signed) F. H. CHRYSLER,
Solicitor, Canadian Medical Protective Association.

OTTAWA, August 24th, 1903.

To R. W. Powell, Chairman of the Executive Committee:

DEAR SIR,—At your request, I beg to report to you with regard to the litigation and claims made against the members of the Association during the period which has elapsed since the date of the last annual report. My last report was dated the 16th September, 1902, and contained a summary of the steps taken in cases reported to the Association up to that date.

The first case there mentioned is the case against Dr. Norton, of Shelbourne, which, at the date of the last report, was pending. The case subsequently was brought to trial at the sittings of the Court at Orangeville, in the fall of 1902, the witnesses were brought to Court and counsel was prepared for the trial, when the plaintiff proposed to abandon the action, and accept the judgment dismissing without costs. As the defendant and his local solicitor agreed that there was no possibility of recovering costs from the plaintiff, this settlement was accepted.

The cases against Dr. Telford, of Chemanuis, B.C., has not been proceeded with, according to the latest information received from his solicitor, Mr. McPhillips of Victoria, and it is not likely now that anything more will be done in this case.

These are the two cases which were pending at the date of the last report. Since then an action was brought against Dr. McCabe of Hamilton, by a man named Jackson, and, after enquiry, the Association decided to assist Dr. McCabe in his defence and this was accordingly done. The action was brought to trial at Hamilton in the month of March before a judge and jury, and, after a contest lastings over two days, a verdict was entered for the defendant with costs. It is not likely that any costs will be recovered from the plaintiff.

Two other claims are pending at the present time; one of them against a physician at Moose Creek in which a writ has been issued, and one against a member of the Association at Truro, Nova Scotia.

The general result of these proceedings has been to amply justify the existence of the Association. As mentioned in my last report, it should be clearly kept in mind that the object of the Association is to assist its members in cases where they are wrongfully sued, and not to defend or assist in defending those who are guilty of malpractice. For this purpose it is desirable that your Board should enquire carefully into the circumstances before undertaking to assist in the defence of any case, and that they should reserve to themselves the liberty of withdrawing from a case if they should discover later on that it is one in which such assistance is not deserved. Such discrimination requires careful and

thoughtful consideration of the cases as they arise, and provision for independent advice from local correspondents in the different provinces and districts may, therefore be considered desirable at this time to strengthen the Board, or to provide for its reorganization in some manner which will be adequate to secure these results in the future.

F. H. CHRYSLER,
Solicitor, Canadian Medical Protective Asssociation.

OTTAWA, August 24th., 1903.

GENTLEMEN:—In presenting you with the affairs of the Association this second year of its life I have in the first place to express my deep regret that I have not been more successful in influencing men to join.

I issued two appeals the first year each costing us as I told you about $100 before the entire profession was reached and the net result was 221 members but even so we were able to report a successful initial year and we were the means of being of substantial use to more than one of our members. It is not necessary to reiterate what I then reported nor the strong memorandum which I read from our solicitor Mr. Chrysler.

I was encouraged to go on by the hearty words spoken by some of our friends at the Montreal meeting and when the year was up I again issued my appeal for new members and I earnestly requested the then members to try and influence others, in their circuits to join, because I feel it is manifest that more can be done in this way than by all that I can say on paper.

THE CANADA LANCET wrote a strong article also and we had reprints made of this and circulated throughout the Dominion. The net result of this work, to say nothing of my correspondence, is that I am here to report to you the total membership for 1903 is 252 an increase of 31 and this with a total of about 5,500 practitioners.

We have fought out cases again this year and we have been successful and thus far I am encouraged, but when I tell you that one of these cases this year cost us $360 to handle you will understand that we may at any moment get into a serious position and be stranded for the want of funds and then we of the Executive will be obliged to reply possibly to an urgent appeal from a member wrongly threatened with an action that he must fight for himself and that his brethren throughout the Dominion, any one of whom may get into trouble any day himself, don't care to bother themselves about assisting him.

Gentlemen this is what it means because for the first time in our history we have a way open to us to be of untold benefit to one another by simply joining this Association at a cost of $2.50 per year.

I suppose it is useless for me to go on sending circular notices broadcast. I have nothing stronger to say than I have said.

I want your advice now what we had better do. Our financial statement which I will read you is a poor showing and we owe our solicitor $169.57 balance in connection with the cases already handled.

I feel very little enthusiasm has been shown speaking generally and yet I am positive that if we have patience a way will yet be found to attract members to our ranks.

We can, if you wish, try the experiment of once more circularizing the profession generally on Jan. 1st and then it seems to me we might arrange a system whereby through some book publishing house the canvassers going about among the profession pesonally could have with them application forms. In this way I feel satisfied a great many members can be secured from the cities. Men are apt to disregard circulars and once read they are put aside for future attention and then lost and the subject forgotten, but a personal appeal will have a much better result. Then again a standing advertisement in a few of the leading medical journals might be the means of keeping the Association in the minds of many men who have forgotten to join.

These remarks are based on the assumption that our usefulness has been proved and that it is desirable that we continue the good work. One thing is essential, however, and that is more members. If it is not worth this small fee to join and if we are not fulfilling the requirements let us agree to disolve. It will cost very little because we owe no bills except the balance mentioned and there is about enough on hand to pay that.

Each case that we agree to defend costs about $350 and if we happen to strike a crop of them in any one year we will be bankrupt.

I wish to make a suggestion that if carried out will I think add to the usefulness and influence of our Association. The Executive have felt from time to time great responsibility in deciding what action to take in certain given cases and we think that the central Board at Ottawa should be enlarged and that they select the Secretary and Treasurer or else combine the office in one as Secretary-Treasurer.

This can easily be done and the office work handled by one man who is familiar with business affairs.

The resolutions at Winnipeg provided for a President, a Vice-President, a Secretary and a Treasurer and these constituted the Executive.

The Vice-President lives at Sherbrook and when I accepted the Presidency I pointed out that the Secretary and Treasurer must be at Ottawa and so two Ottawa men were elected.

I would be glad to enlarge this Executive greatly, but it is not practicable to have meetings of such a body except at great expense.

I think if my suggestion is followed at this meeting we will be able to make a better shewing next year.

Finally I wish to thank the Association for their confidence and I beg to assure the members that I wish them to consider me absolutely in their hands and that if a change is desired not to hesitate to elect another to take my place.

Respectfully submitted,

R. W. POWELL,

President.

Since the above reports of Dr. Powell and the Solicitor were written, and submitted to the meeting at London, the action against Dr. Watts, of Moose Creek, has been brought to trial, and a verdict rendered in favor of the defendant. But the expenses to the Defence Association amount to $252.

On the 14th November, 1903, a writ was issued against Dr. Bird, of Gananoque. The case is one of an action arising from death due to titanus, alleged to have been caused by vaccination.

TREASURER'S STATEMENT.

RECEIPTS.		DISBURSEMENTS.	
Balance in bank Jan. 2, 1903	$145 17	Legal expenses	$373 72
Ontario, 139 members	347 25	Printing and stationery	91 25
Quebec, 35 members	87 25	Postage stamps	60 25
New Brunswick, 14 members	35 00	Clerical assistance in *re* circulars	28 50
Nova Scotia, 17 members	42 50	Auditor and bookkeeper	26 00
Manitoba, 10 members	25 00	Travelling expenses	25 00
North-West Territories, 10 members	25 00	Bank charges on cheques deposited	6 45
British Columbia, 28 members	70 00		$611 17
Accrued interest	3 75	Cash on hand	169 75
	$780 92		$780 92
		Account outstanding due solicitor	$172 95

R. W.

It was moved by Dr. Ferguson, of London, and seconded by Dr. Hodge, of London, that the Canadian Medical Association in annual session assembled in London, August, 1903 do endorse and commend the work of the Canadian Medical Protective Association. Carried.

UNIVERSITIES AND COLLEGES.

UNIVERSITY OF TORONTO MEDICAL STUDENTS' BANQUET.

The seventeenth annual banquet of the medical faculty and students of Toronto University, and the first since the federation with Trinity, was held 10th December in the big hall of the university gymnasium. With over 100 members and guests of the faculty seated at the head table, and a large majority of the school's nearly 700 pupils filling the body of the room, the affair was a genuine and gratifying success.

President G. M. Shaw, who occupied the chair, introduced the toast list by proposing the health of the King, which was honored with true student fervor. The next toast, that of "The Empire," was proposed by Hon. President Dr. H A. Bruce, who took occasion to refer to the Chinese wall which had hitherto prevented a graduate of one province from practising in any other in Canada. He also spoke of the disadvantage under which Canadian medical men suffered in having no standing in the United Kingdom or the other colonies.

Mr. J. M. Clark, K.C., responded eloquently to the toast of "The Empire" in the absence of Sir William Mulock, who was unable to be present.

Hon. Richard Harcourt, in proposing the toast of "The University and Its Medical Faculty," said that the gathering of students before him was probably the finest ever convened in Toronto. The thanks of all true friends of education were due to President Loudon, Provost Macklem, and Dean Reeve, who had so tactfully conducted the negotiations which led to the federation of the two schools.

Mr. Harcourt said he was pleased to see the marked progress being made in medical science, and there were many indications that Toronto University would not stand still, but would reach after still higher ideals. To achieve this end, the ablest men in the profession should be enabled to give their whole time to research and instruction. It would soon be found imperative that the university should have the sole and independent management of an hospital of its own, and as a graduate of the university, Mr. Harcourt said he would be happy to give any assistance in his power to bring this about.

He closed with a tribute to the philanthropy and altruism of the profession, which conferred so many benefits on mankind, in many cases with no recompense save the sense of duty done.

Prof. Ramsay Wright responded on behalf of the faculty, as President Loudon was too ill to be present. He spoke of the need for endowed chairs for anatomy, pathology, therapeutics, and hygiene in the school. Prof. Temple also spoke briefly in response to the same toast.

"Sister Professions" were proposed by Provost Macklem, and responded to by J. A. Patterson, K.C., on behalf of the law; Prof. Robertson for divinity, and Hon. Dr. Montague for medicine.

"Sister Institutions," proposed by Mr. A. B. Durwin, were represented by the following gentlemen:—McGill, Mr. Magee; Queen's, Mr. McCullough; Bishop's, Mr. Donnelly; Trinity, Mr. Kee; London, Mr. McMillan; Victoria. Mr. Pearson; Osgoode, Mr. McDonald; 'Varsity, Mr. Gilchrist; S. P. S., Mr. Gillespie; Dental, Mr. Clarkson; Knox, Mr. McKay.

Dr. Marlow and Mr. McMillan spoke for "The Ladies," and Dr. Wishart and Mr. Kerswell for "The Freshman."

COLLEGE OF PHYSICIANS AND SURGEONS.

The results of the December examinations of the College of Physicians and Surgeons of Ontario were handed out recently. They are as follows:—

Final—Lazelle Anderson, Ingersoll; J. Brown, Forester's Falls; J. H. Boulton, Picton; Emma Connor, Stirling; N. Davis, Fallowfield; J. E. Davey, Waterford; H. R. Elliott, New Sarum; W. J. Fischer, Waterloo; J. J. Fraser, Huttonville; W. A. Groves, Fergus; J. N. Gunn, Ailsa Craig; B. J. Hazlewood, Bowmanville; H. Logan, Meaford; W. R. Mason, Ottawa; T. McPherson, Stratford; A. P. F. Nelles, Windsor; P. J. Pattee, Hawkesbury; J. Roberts, Hamilton; J. J. Robertson, Belleville; J. M. Stevens, Chatham; H. E. Service, Peebles; R. J. Trumpour, Toronto; R. G. Williams, Meaford; O. C. Withrow, Woodstock.

Intermediate—J. H. Boulter, Picton; W. S. Fawns, Udora; J. J. Fraser, Huttonville; W. J. Fischer, Waterloo; W. A. Groves, Fergus; H. C. Jamieson, Guelph; F. Large, Listowel; W. R. Mason, Ottawa; C. M. Mackay, Woodstock; T. McPherson, Stratford; A. P. F. Nelles, Windsor; F. J. Pattee, Hawkesbury; J. Roberts, Hamilton; J. J.

Robertson, Belleville; J. M. Stevens, Chatham; W. H. Secord, Brantford; H. E. Service, Peebles; R. G. Williams, Meaford; A. Wilson, Russell.

Primary—E. T. Atkinson, Barrie H. G. Blair, Ashton. J. H. R. Brodrecht, Berlin; Edith Beatty, Fergus; George Boyd, Gravenhurst; J. Brown, Forester's Falls; J. H. Boulter, Picton; D. H. Boddington, Leamington; J. W. Cook, Strathroy; E. S. Conboy, Dovercourt; W. S. Body, Windsor; Mary Callaghan, Toronto; T. A. Davies, Toronto; T. B. Edmison, Brighton; F. G. Ellis, London; J. J. Fraser, Huttonville; R. J. Foster, Kagawong; W. J. Fischer, Waterloo; A. J. Gilchrist, Toronto; G. R. Gilmour, Brockville; E. B. Hardy, Toronto; J. A. Kane, Orillia; J. I. Morris, Hamilton; W. R. Mason, Ottawa; J. H. McPhedran, Wanstead; J. McLellan, Toronto; T. McPherson, Stratford; A. P. F. Nelles, Windsor: W. J. O'Hara, Hagersville: F. J. Pattee, Hawkesbury; J. J. Robertson, Belleville; T. D. Rutherford, Delmer; J. A. Spiers, Drumbo; J. M. Stevens, Chatham; G. Stewart, Ruthven; W. H. Secord, Brantford; R. W. Tisdale, Lyndoch; J. H. Todd, Toronto; F. J. Walker, Petrolea; A. Wilson, Russell.

THE PLACE OF BIOLOGY IN A MEDICAL CURRICULUM.

From the report of the General Medical Council of Britain we quote the following:—It is, we believe, quite open to discussion whether biology should be included at all in the curriculum for a minimum qualification, which term may be applied, without any disrespect, to the diplomas of the bodies with which we are concerned. A university degree, if it is to justify its existence, should connote more than the minimum amount of knowledge both in extent and variety, but it is not claimed that any such necessity exists in connection with the licences to practise conferred by the licensing corporations, which have, it must be remembered, their own higher tests, which are not now under consideration.

If we were pressed for an opinion on this point we should be obliged to admit that, overburdened as the student's curriculum is with subjects, elementary biology is the subject which could best be dispensed with.

Chemistry and physics a student must learn if he is to understand the later subjects of his curriculum, but much, perhaps all that is valuable, in the course of elementary biology might be imparted in the anatomical and physiological courses, if those subjects were dealt with on somewhat broad lines. And we think that it would not be denied that it would be much better for the student to obtain a reasonable grasp of the principles of the two physical sciences than to fail to achieve that end because a third subject has been packed into an already overfull year.

THE CANADA LANCET

VOL. XXXVII. JANUARY, 1904. No. 5.

EDITORIAL.

A DOMINION PUBLIC HEALTH DEPARTMENT.

Some time ago, in THE CANADA LANCET, we referred to the importance of the study of public health. It was then pointed out that the death rate in Great Britain has fallen from 24 per thousand to 19 per thousand, due to better sanitary conditions and the influence of preventive medicine. This is equal to the addition to the population of Great Britain of 240,000 annually. A reduction of the death rate in Canada by one in the thousand would be equivalent to an addition to the population of 5,000 annually. Based on Canadian expectancy, the actuarial value of a life is $6,000. This would be a saving to the country of $30,000,000 a year. It is when health matters are presented in this form that the great importance of sanitary matters and preventive medicine looms so large in the public eye.

The Canadian Medical Association has given its endorsation of the establishment of a Public Health Department. Both at the Montreal meeting in 1902, and at the London meeting in 1903, the Association urged the matter on the Dominion Government. At London, August, 1903, the Committee reported as follows:—

OTTAWA, Aug. 24th, 1903.

To the President and Members of the Canadian Medical Association.

GENTLEMEN:—Your Committee, consisting of Dr. T. G. Roddick, M.P., Dr. E. P. Lachapelle and Dr. R. W. Powell, convener, acting under instructions from your President had the honor to wait upon the Prime Minister to present to the Government the resolution passed at the last meeting of your Association on the question of the creation of a Department of Public Health under one of the existing Ministers. The whole matter was gone into carefully and your Committee endeavored to press upon the attention of the Government the great desirability and importance of placing all matters included under the term Public Health with which the Dominion Government has to do upon a higher basis than now obtains.

It was pointed out that this Association, representing the whole Dominion in which there were over 5,500 practitioners, had concluded that it would be in the best interests of the general public welfare of the Dominion that this should be done and that the time had come when Canada should be elevated from the entirely secondary place she now occupies among the nations in this branch of the public service and that she should at once have a status conferred by Parliament whereby all questions relating to sanitary science and public health should be dealt with from a central authority to be known as the Publich Health Department.

Many matters of detail were not particularly discussed at the interview inasmuch as your Committee felt that their duty consisted chiefly in pressing upon the Government the main idea by endeavoring to show that the present system of having the various subjects scattered through several Departments with consequent multiple division of authority was not calculated to impress the public with the great importance of the administration of this branch of the public service.

Your Committee moreover insisted strongly that our profession was a strong active body of earnest workers and their number and influence entitled them to this consideration which was for the public welfare and not in any way directly or indirectly for their personal benefit and finally it was pointed out that the skeleton of this plan is already well laid and a Director General of Public Health holds an appointment to-day, an earnest hard-working, able official, at present issuing his orders *in re* quarantine from the Department of Agriculture, which is an anomaly *per se* and lessens the authority in a measure, and yet he has nothing to say as regards sick seamen, sick Indians, adulteration of food, vital statistics, and and has no laboratory under his control.

The Prime Minister was most courteous and listened patiently to the arguments set forth and finally authorized Dr. Roddick to place a resolution upon the order paper with a view to having a discussion in Parliament before the Privy Council took up the matter in earnest.

Sir Wilfrid Laurier also stated that in the absence of the Minister of Agriculture who was familiar with the whole question he would not willingly go into the matter at greater length with a view to legislation, in the Minister's absence.

Dr. Roddick's resolution was as follows :

"That it is expedient, in the public interest, to constitute a Department of Public Health for the Dominion, charged with the execution of the various duties which are or may be imposed upon or assumed by the Government for the protection of the public health, and the preven-

tion and mitigation of diseases. And that such Department of Public Health be administered under the direction of a Minister of the Crown, in conjunction with one of the existing Departments of the Government."

That they have a warm advocate in Mr. Fisher who is thoroughly alive to the necessities of the case and if his colleagues in the Government would carefully consider this matter and the justice and importance of the claim for consideration, we as a profession are making, they would readily acquiesce. Some difficulties naturally stand in the way and some difficulties are easily introduced into the way but a way can be found for this measure to be put through as has been found for other measures and will be found for future measures if only there is a willingness on the part of the Government to place this matter in the position it ought to occupy. Let me say that Parliament is still in Session and therefore it may yet transpire that the final decision of the Government may not be adverse and the delay will be found to be due to the great strain of urgent public business of weightier moment.

Your Committee express the hope that their efforts have not been entirely in vain and they beg to report that in their opinion the profession as a whole must continue to press their claim for a proper recognition of this question at the hands of the Government by influencing all those with whom they may come in contact and moreover by continuing to further influence public opinion by definite announcements from time to time in the form of resolutions emanating from this parent Association and others of a like character throughout the Dominion.

Respectfully submitted on behalf of the Committee.

R. W. POWELL,
Convener.

The following resolution was unanimously adopted :—

Resolution re Public Health Department.

Moved by Dr. Adam H. Wright, Toronto, and seconded by Dr. H. H. Chown, Winnipeg, That

"Whereas this Association at its meeting in Montreal in 1902 placed itself on record by Resolution to the effect that it is expedient that a Department of Public Health be created by the Dominion Government, and administered under the authority of one of the existing Ministers of the Crown.

"It is further Resolved at this meeting to again press upon the attention of the Government that Canada is not preserving her status among the nations in this branch of the public service and that it is anamolous to have the various matters connected with the administration of Public Health so far as it appertains to the Dominion Government spread throughout four or five departments.

"It is further resolved that in the opinion of this Association the profession of medicine in the country, being actuated in this matter solely in the best interests of the public welfare and with an earnest wish to place Canada on a par with other civilized countries is entitled to expect that the Honourable the Privy Council of Canada will at an early date take this question into its best consideration so that by the time our Association meets again in the Autumn of 1904 we will be made officially acquainted with the decision.

"That a copy of this Resolution be transmitted by the Secretary to the Right Honourable the Prime Minister, to the Honourable the Minister of Agriculture and to the Honourable the Privy Council of Canada through the Hon. R. W. Scott, Secretary of State."

The efforts to establish a Health Department for Canada meets with our hearty approval, and we hope that the time is not far off when the Government of Canada shall act in this matter.

FOUR WORTHY ASSOCIATIONS.

1. First comes the Canadian Medical Association. This is our national medical association and should be well supported by all the provinces. This association has done much for the medical profession of Canada in the past, and is destined to do still more in the future. It meets in Vancouver sometime in August, and it is to be hoped that the attendance will be large. No doubt many of the eastern men will avail themselves of the reduced rates to pay a visit to the western provinces, which promise so much for the future of the Country. The president, Dr. Tunstall, of Vancouver, and his associates are making great efforts to secure a large attendance and to provide an excellent programme of papers and social functions. Dr. Tunstall paid a visit to the eastern cities a short time ago in the interests of the Association. When in Toronto, he met a considerable number of practitioners at the King Edward Hotel, and was greatly encouraged by the promises of assistance he received on that occasion. In further issues we shall have more to say upon this subject, but, in the meantime, we urge upon as many as possible to attend the meeting, and take part in it by contributing papers, or exhibiting cases.

2. Next comes the Ontario Medical Association. This is our provincial association, and deserves well at the hands of the profession of the province. It is impossible to estimate how much this association has done for the medical interests of the profession of Ontario. It is an annual period of reunion and takes the place of a short post graduate course of study.

Much useful information is distributed at these annual gatherings. It is not asking too much to suggest that it would be more in the right direction if practically all the practitioners of the province sent in their annual fees, even if they could not attend the meeting. This would enable the officers to issue the proceedings in book form, of which the members would receive a copy. At the meetings in June 1903, Mr. I. H. Cameron, of Toronto, moved, seconded by Dr. McKinnon, of Guelph, that at the meeting of 1904 the Ontario Medical Association shall become a branch of the British Medical Association. This will require careful consideration. If it means the taking of the British Medical Journal, the annual fee will become $5.00 at least. A week prior to Dr. Ross's departure for Egypt and other eastern places, he entertained at dinner at the King Edward Hotel the officers and members of the various committees. At this gathering, the affairs of the Association were fully discussed, and many of the preliminary arrangements completed. On this occasion, Dr. Tunstall, of Vancouver, and Dr. J. Alex. Hutchinson, of Montreal, were present. Much useful work was done for the Canadian Medical Association as well as for the Ontario Medical Association.

3. The third association that should appeal to every physician in Canada is the Canadian Medical Protective Association. At another page, we give much valuble information regarding this Association. On former occasions we have called attention to the splendid work this association is doing for its members. But why should it not be in a position to do the same for every practitioner in the Dominion ? The officers of this Association are now making an appeal for additional members ; and we sincerly trust the appeal shall not be in vain, but yield excellent results Those who are members, or who intend now to remit their fees, can be of great service to the Association by speaking to their neighboring practitioners, and doing a little missionary work for the Association. A study of the suits against practitioners reveals the facts that in almost every instance the suit is an unjust one, and the plaintiffs have no means. This means that these suits are usually speculative ones, and that the defendants, when they win, cannot recover their costs. The expenses in these cases are always heavy. Mutual co-operation among the doctors for their own protection against such actions is one of the most praiseworthy efforts before their attention at the present moment. The Annual fee is $2.50 ; which is the only source of revenue, but it is enough if the profession will only respond to the call of the officers, who are : President, Dr. R. W. Powell, Ottawa; Vice-President, Dr. J. Camarind, Sherbrooke ; Treasurer, Dr. J. A. Grant, Jr., Ottawa ; and Secretary, Dr. F. W. McKinnon, Ottawa.

4. The fourth association for which we wish to speak a good word is the Ontario Medical Library Association. There is now a large collection of books, and the list is growing rapidly. The time has come when there ought to be a home for this valuable collection. In time, the profession in Ontario would accumulate a valuable library. All over the province there are doctors who could donate books or journals, and aid by an annual or occasional fee. The home for the library would also be a sort of head quarters, or Toronto home for the profession of Ontario.

SOME FEATURES IN THE LIFE OF GERMS.

It is now settled beyond dispute that the same germ does not always produce the same result. The conditions of the animal that is experimented upon influences the effects of the germs very much. If a pigeon be starved it is a ready prey to anthrax; but can resist it if well fed. Fowls are susceptible only when chilled. Young rats are sensitive, whereas old ones can resist the infection.

It is impossible, in the laboratory, to duplicate some of the experiments produced by disease-germs and the condition of the animal attacked. While it is true that the pneumococcus is the cause of pneumomia, still it appears that a chill to the skin is necessary to give rise to the conditions that favor the growth of the germ. In like manner, the germs that inhabit the genito-urinary channals remain dormant until a distended bladder is emptied, or the person has a chill, or suffers the shock of an operation, when cystitis, or pyelitis may suddenly appear.

Much of the injurious effects of germs in the body may be due to the dead proteids that accompany their growth. Large quantities of dead or living harmless bacteria injected into the system may prove fatal by the contamination of the blood by these proteids. The hay bacillus can be as fatal as are dead, or living, pathogenic germs. This would tend to narrow down the specific influence of germs, apart from the effects of their products.

The colon bacillus and the bacillus typhosus have some close affinities. There are some high authorities who regard them as modifications of the same germ, as descended from a common ancestral form. The colon bacillus is now natural to the intestinal canal, and may be a modified form of the bacillus typhosus. On the other hand, the colon bacillus under certain conditions of an unsanitary character may become the bacillus typhosus. In the normal condition of the intestines there is reason for the opinion that the colon bacillus performs some useful purpose. If the conditions are changed and the intestines are injured,

or inflamed, the bacillus may become highly pathogenic. So, too, if it enters some other tissue. In the pleural cavity it may give rise to an abundant empyema. Different locations and different feeding make the differences in these instances.

By the quality of the culture medium, the bacillus anthracis can be changed from the most virulent type to a harmless putrefactive organism. This is only an instance of what can be done with almost all pathogenic germs. Nature is doing the same thing all the time. Diseases are thus constantly changing in their type, as to their severity, or leniency. The pathogenic characters are constant only in so far as their environments are constant. The most virulent type of diphtheria can be modified into a mere saprophyte. It is not uncommon to find a virulent type of the Klebs-Löffler bacillus in healthy persons, which under favorable conditions may produce diphtheria in the same, or another person. It is not possible therefore to be too dogmatic in the matter of diagnosis, because the germs of diphtheria may be found.

The bacillus tuberculosis is an excellent example of the modifications arising from the different environments in which the bacilli may live. Avian, bovine, and human tuberculosis have relationships to each other and yet they have some marked features wherein they differ from each other. The bacilli as obtained from man, can, with difficulty, be made to grow in the calf; but once they have done so, they can with ease be made to grow in another calf. The calf, as a new culture ground for the germs taken from the human body, has modified them, with the result that they now prefer the calf and readily infect it. The seed, and the soil, and the crop are here most beautifully related to each other. The high grade apple can be grafted on to the hardy seedling. There is, no doubt, for all varieties of tuberculosis a commou origin. The different animals and birds are just so many different culture media that modify the germs, as may be done, under certain conditions, in the laboratory.

All this leads to the sure ground that the germ is not the sole cause of infective and infection diseases. The germs must be evolved; and there is good reason for thinking that many germs may be harmless, or highly pathogenic, according to the culture medium, or animal they have lived in. Perhaps nowhere is this so well seen as in the venereal diseases. By frequent irritation and dirty habits comparatively mild germs become virulent, and there results gonorrhoea and chancroids, which are only short removes from urethritis and simple ulcer.

For many of the above thoughts, we express our indebtedness to Dr. G. Frank Lydston's Article in the *Journal of the American Medical Association.*

SLEEPING SICKNESS, AFRICAN LETHARGY, TRYPANOSOMIASIS.

Trypanosomes were found in the blood of a mammal by the late Dr. Timothy Lewis in 1877. In 1880 Mr. Evans, V.S., found them in the blood of horses, mules, and camels, suffering from the disease known as surra in India. In 1896, Dr. Bruce proved that the nagana, or fly disease of horses in some portions of Africa was carried by a biting fly and that the infective agent was a trypanosome. More recently Dr. Forde, Dutton, and Manson have shown that the same form of parasite, or trypanosome is present in the blood of man when afflicted with the sleeping disease.

The flies which carry the trypanosomes are of the *Genus Glossina.* They have also been called the Tsetse Flies. The particular fly which carries the trypanosome that causes the sleeping disease is the *Glossina palpalis.* It is dark brown, the legs are sometimes buff-colored. Several diseases of animals are caused by different varieties of trypanosomes, carried by varieties of the *Glossina* flies. These diseases are nagana, surra, dourine, and caderas,

The following facts are now fully established: That sleeping disease is due to the presence in the blood and cerebro-spinal fluid of a species of trypanosome. That it is a very common and fatal disease in many parts of Africa, especially the West Coast; that monkeys are susceptible to sleeping sickness, and always yield the same trypanosome in the blood and cerebro-spinal fluid; and that the trypanosomes are conveyed from the sick to the well by the Tsetse fly, *Glossina palpalis,* alone.

The real credit of discovering the relationship between the trypanosome hæmatozoa and sleeping disease is due to Dr. Castellani. He found these parasites always present in the cerebro-spinal fluid of those ill with the disease. An interesting fact is brought to light to the effect that about 28 per cent. of the native population in areas, where sleeping diseases abound, have the trypanosome in their blood. In non-sleeping disease areas the trypanosome cannot be found in the blood of any of the natives.

The disease can be communicated experimentally from man to the monkey. An injection of cerebro-spinal fluid from a person with sleeping disease was made into the body of a monkey. Seventeen days later, trypanosomes were found in ths blood of the monkey. The animal died about two months after the injection. Experiments were conducted to ascertain whether the *Glossina palpalis* could convey the disease from a sick person to a monkey. For this purpose, the flies in a cage were allowed to feed on a sleeping sickness person, and were then allowed to

feed on a monkey. The result was that the animal was infected with trypanosomes. Tsetse flies caught along the lake and brought to the laboratory gave trypanosomes to three monkeys.

In Journal of the *American Medical Association*, for 21st November, 1903, there appeared an article by Professors Novy and McNeal, of Am Arbor, dealing with the artificial cultivation of the trypanosome. In some of the experiments several generations of the cultures were obtained. By cultivation, the virulence of the trypanosome can be modified, and it may be possible in this way to secure the means of immunization. Introperitoneal injections of virulent cultures of the trypanosome caused the death of mice and rats in 7 or 8 days. Thus we have clear scientific proof that the trypanosome is the organism of the fatal sleeping disease.

GOITRE, ITS FORMS AND TREATMENT.

In an address delivered before the Medical Society of Plymouth, Dr. James Berry divides goitre into the bilateral parenchymatous, the solid and cystic encapsuled tumors, exophthalmic goitre, and malignant disease. In the treatment of these cases, attention should be given to their causes. In the parenchymatous variety, and in its early stage, a good deal can be done for the patient. There seems to be good reason for thinking that this condition is due to some poison in the drinking water. By proper change in this the case is often greatly benefitted. In old cases, where the gland has become fibrous and hard, and in the cystic and adenomatous, mere change of water will effect no improvement.

The two drugs of most value in the treatment of goitre are iodine and thyroid extract. In the case of old parenchymatous, cystic, or encapsuled goitres very little is to be expected from medicinal treatment. In soft encapsuled adenoma, in young people, drugs may be beneficial. The external application of tincture of iodine is sometimes useful.

The surgical removal of the gland is conducted in two ways, the extra-capsular extirpation, and the intra-capsular enucleation. In the first method a careful dissection is made, avoiding all important structures, and tying all the vessels before they are divided. In the second method the capsule is divided and the gland cut into, until the tumor is reached. By a careful blunt dissection it is removed. This method is only suited to the encapsuled form of goitre. If attempted in unsuitable cases there may be considerable risks, one of these being hæmorrhage. In large encapsuled growths it may be well to do a resection-enucleation, as by this method most of the large vessels are tied, and the bleeding is thus under control.

Multiple encapsuled tumors add greatly to the difficulty of enucleation and the amount of hæmorrhage. Solid adenomata in young persons, if embedded in much parenchymatous goitre tissue, are very difficult to enucleate, and the extirpation of one lobe of the gland is usually easier and safer. If there be several tumors, or cysts, enucleation is not a suitable operation. For the majority of parenchymatous goitres no operation should be performed. They usually yield some to medicinal treatment, or they do no harm. For mere deformity, a parenchymatous goitre should not be removed.

Two forms may cause much dyspnoea, and demand an operation: The rapidly growing form in boys. or girls, about puberty; or that in which there is a small, deeply seated, tumor behind the clavicle or sternum.

Operation is very seldom justifiable in exophthalmic goitre. In malignant cases it should be performed only if there is very good reasons to think that the disease can be eradicated.

SOME MISTAKES IN PRACTICE.

It is not the intention in this article to discuss mistake of treatment, either medical or surgical: but some mistakes that are of a business nature.

One of the first in importance, and a rather common one, is the habit of allowing accounts to run on too long without being rendered. This is bad for both the doctor and the patient. Business men do not follow such a careless practice. They render their accounts promptly. If these are not paid they cease doing business with persons. Carelessness in the matter of rendering accounts, leads to carelessness on the part of the patients in the matter of paying their doctor's bills; and therefore the doctor is sure to lose amounts that otherwise he might have collected. The tendency of business is more and more towards the no-credit system. Doctors should try to approach this method by shortening the credit term as much as possible.

Contract practice is another great evil. There is no need for its existence. Careful study of the experience of medical men, as drawn from this actual work, goes to show that practices are not built up by this means. It is quite a mistake. Then, again, the educative effect upon the public is not good. No practitioner seeks his own best interests, when he allows himself to be elected to attend a certain number of persons, at a stipulated amount per capita in advance. And whatever does himself harm, does the profession as a whole harm. Societies and cor-

porations should be taught that the medical profession is not up for auction to the lowest bidder. Societies and corporations may very properly engage the services of medical men; but the basis of the contract ought always to be, pay for the services rendered, On the amount of attendance rendered under contract practice, the doctor loses, take one contract with another. It would pay the profession, as a whole, therefore to abandon the present system of contract practice.

Another mistake made by too many medical men is that of not mingling freely enough with members of their own profession. To associate with each other is of much importance. It tends to create a liberal spirit. This is one of the great advantages of attending medical associations. There is both a social and an educational side to these gatherings. They go a long way to remove prejudices, by bringing members of the profession into contact with each other in another way than in the formal meeting in consultation. Then there is the stimulus to thought and study caused by a free and friendly discussion of cases and papers. As no two persons' reading and experience can be exactly the same, there is always something to learn from each of them. Meet often and exchange thoughts freely. Such conferences and discussions will do much to remove jealously. Persons who meet often in friendly debate will be much more likely to treat each other generously than those who have not thus come together.

ARE THE ANGLO-SAXONS DYING OUT?

Such is the the title of Mr. Havelock Ellis' article in the November number of the *Independent Review*. In the article it is shown that at one time Spain held the supremacy in Europe, and at a later period France became the dominant power, which reached its highest point under Napoleon, when it broke. From that period the palm of ascendancy has been with the Anglo-Saxons. During the Victorian era there was an amazing expansion of the Anglo-Saxon influence in Great Britain, North America, and Australia.

But Mr. Ellis points out the decline in the British birth rate during the past generation. In 1876, it was 36.3 per 1,000 of the population Since then the birth rate has fallen by 20 per cent.; and, in some of the larger cities, by as much as 40 per cent. Against this must be set a lowered death rate, which is mainly made up by a saving of life in the older rather than in the younger years. Corresponding with this lowered birth rate, there has been a falling off in the marriage rate. But it must be noted that the marriage rate is sometimes high, when the birth rate was low. There has been a marked tendency for the postponement of

the average age at which marriages take place. In Britain the tendency is to marry late and have few children. But in addition to this, there has been a steady tendency for the vigorous to emigrate. This has been very marked in the case of Ireland. This lowered birth rate has been noted, however, in the United States, and has been the subject of much comment. The average number of children in an Anglo-Saxon family in America in Franklin's time was eight. At the end of the nineteenth century, the number of children to the family had fallen to from one to four. Nor does there appear, in the United States, to be much difference between the upper and lower families. In the United States the general level of the birth rate is maintained by the foreign population.

Turning to Canada, it is found that among the Anglo-Saxon families the birth rate is much the same as in the New England States. In Quebec, among the French Canadians, the birth rate is over 35 per 1,000 of the population, and an average of 9 or 10 per family. In Ontario, the birth rate is only 21 per 1,000.

In Australia and New Zealand the same condition is found to hold true. Among the English speaking families the birth rate is rapidly declining. In Queensland it fell in ten years from 37 to 27 per 1,000. In New Zealand, with all its wealth and social advancement, its low death rate, and comparatively high marriege rate, the birth rate is steadily falling; and appears to do so inversely with the prosperity of the country.

From England and all the great countries which she has planted all over the world, we thus find the same report that the birth rate is falling among the English speaking people.

THE STUDY OF INSANITY.

On 29th September, 1903, a deputation, headed by Dr. W. N. Burnhardt, waited upon Premier Ross, and outlined a scheme for the study of insanity. In addition to what is now being done for the insane, it was contended that an institute for the study of insanity should be established. At the head of the institute there should be a director, who would have jurisdiction over all the institutions. He would have power to study the insane during life, and examine their brains after death. It was asked that a sum of money be set aside for this purpose.

From the daily press of December 14th, 1903, we take the following item: "Dr. W. N. Barnhardt has had several interviews lately with Hon. J R. Stratton in connection with the question of providing more extensively for the pathological study of insanity at the Provincial asylums. It is believed that much advance could be made in the knowledge

of causes and cures for insanity if more efficient study could be carried on. Mr. Stratton has given no definite promise that the plan would be carried into execution, but admitted the wisdom of some such course, and it is not unlikely that he will lay the matter before the House at its next session."

We do not propose entering into the merits of the establishment of an institute for the study of the pathology of insanity. But what we do propose saying, and saying with all the emphasis at our command, is that if such an institute shall be established, it must be placed under the control of one who would give dignity to the work and who would be acceptable to the medical profession. There should be no tolerance shown to any one who either now or in the past has or had any associations with any irregular form of practice.

PERSONAL AND NEWS ITEMS.

Dr. Scott, of Newmarket, has made a satisfactory recovery from his recent illness.

Dr. M. F. Haney, an old resident of Humberstone, died at his home 3 December, aged 79 years.

Dr. Brett has been appointed lecturer on Materia Medica for the new Medical College at Winnipeg.

Dr. Herbert L. Barber, Bowmanville, is taking a post-graduate course in medicine in New York City.

It is reported from Dawson City that Dr. Macfarlane died there on 8th of December, 1903. He was a native of Stratford.

Dr. Herod, late of Toronto, is installed in the village of Niagara Falls, in the office long occupied by the late Dr. McGarry.

Dr. Fletcher, who opened up an office some two months ago in Forest, has gone to Oil Springs where he will practise.

Dr. J. A. McLeish, of Parkhill, well known in town and vicinity, has taken into partnership, Dr. I. W. Irwin, of Lindsay.

Dr. H. J. Anderson left 18th November for Essex, to commence the practice of medicine as assistant to Dr. Brien of that place.

The wedding of Miss Florence Mildred Arnold and Dr. W. J. McKenzie, both of Kingsville, took place on Wednesday, Nov. 25th.

Dr. J. Nisbet Gunn, who has just returned from a year in England and on the continent, intends practising in Clinton, Ontario.

Dr. Joshua Warner, of East Angus, the pioneer physician of the district and the oldest resident in Wesling township, died 22 November, aged 89.

While leaving the post office recently, Dr. Canfield, of Ingersoll, slipped and fell on the steps, sustaining a sprained ankle and other injuries.

Dr. Herbert C. Featherston, late of Hamilton, reached Toronto 10 November, returning from Edinburgh, Scotland, where he received the degree of L. R. C. P. & S.

Dr. Warren, of Whitby, was in Toronto to the General Hospital for a broken shoulder blade, the result of being thrown from his buggy, in the latter part of November.

Dr. and Mrs. D. S. Bowlby, of Berlin, left on 4th December, for Toronto, en route for New York, and expect to sail very soon for Naples, and will be away some months.

Herbert Tandy, B. A., final year medical student of Queen's, has been appointed by the medical board of the general hospital to succeed Dr. W. S. Murphy as a house surgeon in that institution.

Dr. Ross, of Belleville, has been offered and accepted the position of foreign medical and general representative of a leading Canadian life insurance company, and left for Calcutta about the 1st of December.

Dr. Frederick Parker will take over Dr. W. M. Egberts' practice in Milverton, about the first of December. Dr. Parker has been practising the last eight years at Bruce Mines, Dr. Egbert will visit the hospitals of Europe for some months.

Dr. Fred B. Carron, Brockville, has received an important appointment from the C.P.R. steamship line as surgeon on the steamship Empress of India. He will leave on the 15th December for Vancouver, from which place he will sail on the 27th for Hong Kong, China.

The following item is from the *Toronto Globe* of 19th December. "The transmission through Canadian mails of 'Physical Culture,' a magazine published in New York, has been forbidden. It is understood the offence was critical references to several Toronto physicians by use of their initials, from which they have been identified."

Dr. Chamberlain, Inspector of Prisons, had a moose in cold storage which was one of the largest ever brought to Toronto. It occupied the larger part of a box car and weighed about 1,400 pounds. It stood over six feet at the withers, and the antlers spread 52 inches. From tip to tail the measurement was 8 feet 6 inches and at the shoulders its girth was 7 feet 6 inches.

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DISEASES DUE TO ORGANIC INSUFFICIENCY.*

By W. G. MACCALLUM, M.D., Assoc. Prof. of Pathology Johns Hopkins University, Baltimore.

GENTLEMEN:—As one who still feels himself a student of the University of Toronto, I have been particularly pleased and honored by an invitation to speak before the Society of Toronto Pathologists. The renown of Toronto as a city possessing unsurpassed facilities for pathological research is spreading abroad and one hears daily of the new buildings which may serve as models for future institutions. It is on that account, therefore, that I come to you, not bringing any store of information but rather a store of problems, and asking for help in their solution. The subject which I have chosen—a broad one familiar to you, even in many of its details—is beset, however, with doubts and obscurities, to which I wish to recall your attention, for their elucidation will put in our power the cure of a great many widespread diseases and the rescue from death or from a life worse than death, of thousands of our fellow men.

It is difficult to outline precisely the group of affections which may be said to be due to organic insufficiency: for the destruction of any organ will surely produce disturbances of a mechanical or chemical nature in proportion to the extent of the injury. Still there are several apparently insignificant organs in the body whose loss occasions such a profound disturbance as seems entirely out of proportion with their dignity, and it is of such instances that I wish to speak. These organs have enjoyed, and some of them still enjoy, an idyllic repose in the midst of the ruthless cross questioning, which has been applied to the other tissues of the body, but their turn has come and from their long hiding they are fast being dragged out and exposed as organs, which, though unobtrusive, are of vital importance.

It is evident that every tissue takes materials from the blood and gives back from its cells the products of their metabolism. When the tissue is specialised, for example, into an organ of motility as a muscle, we cannot expect it to also produce some substance chemically useful to the body, and we are therefore satisfied to find that when after a great

* Read before Toronto Pathological Society, Dec. 30, 1903.

deal of activity the products of metabolism are turned back into the blood, they are not only useless but actually injurious to the system. In other cases, as for example the salivary glands, the function of the epithelial cells consists in forming from the constituents of the blood a useful material, which is conveyed by a suitable mechanical arrangement to the point where it is needed. Doubtless, these cells also form waste products, but the elaboration of useful material is the secretion. In still other organs, there is often no arrangement of the epithelial cells to accommodate secretion and there is no duct to care for the removal of any secretion. Still, although they do not go through the same changes in appearance as the ordinary secretory epithelium, it cannot be doubted that these cells are secretory, and that the substances which they produce are absorbed by the lymphatics and blood vessels—the so-called internal secretion. Thyroid, parathyroid, adrenal, hypophysis, and possibly also the pineal, carotid, and coccygeal glands may be included in this group, while the thymus, spleen, etc., form part of the lymphatic and blood circulatory system and, inasmuch as their function is concerned with the formed elements of the blood, do not belong here.

[Following this, the various types of myxoedema and cretinism were discussed, especial interest being found in the forms described as *Myxoedeme incomplet* and *Myxoedeme fruste*, all of which, however, differed from the myxoedematous idiocy or the idiocy of cretins only in degree and in the time of life at which the individual began to be affected, The nature of the common aetiological factor—the thyroid insufficiency—was further elucidated by the cases of myxoedema, following operative, extirpation of the thyroid, and by the results of experimental thyroidectomy in animals.]

There seems, therefore, no doubt that we have in all these disturbances one and the same basis, namely, the thyroid insufficiency, and we are called upon to explain its mode of action, but this is difficult because we do not know the function of the thyroid, and when we make the statement that it controls proteid metabolism, we are by no means sure in what this control consists. It is known, of course, that the thyroid produces a colloid material and it is thought that this is carried into the general circulation in small quantities by the lymph and that it serves there to neutralise some poisonous product of metabolism or by its presence to render possible some metabolic process. It is also known that it is by no means necessary, in order to gain these ends, that the thyroid should be in its proper position in due relation with nerves and vessels; on the contrary, it has been shown that transplanted pieces, provided they have become vascularized from the surrounding tissue,

may replace the extirpated thyroid. Indeed the subcutaneous injection or even the swallowing of the thyroid substance will replace the function of the thyroid completely. These results, as may well be imagined, were largely obtained in the strenuous attempts made to save the lives of those in who operative myxoedema had appeared. We must therefore think of the function of the thyroid as a chemical process and look to the chemical nature of its extract for light upon this subject. It was Baumann who first showed the abundant presence of iodine in the thyroid and isolated the iodine-holding compound which he named "thyroiodin" and which he showed to be equally effective with the thyroid extract itself in replacing the secretion of the thyroid. Since his time, Oswald has shown that it is only in the secreted colloid that iodine is to be found—that in infantile thyroids which contain no colloid, there is no iodine, and further that it is possible to separate from the thyroid an iodine-free thyreoproteid and an iodine containing thyreoglobulin. It is the latter only which is able to replace the thyroid secretion in its functions and which contains the thyroiodin of Baumann. This substance becomes much richer in iodine in those persons to whom iodine salts have been adminstered. It varies further in its iodine content to such an extent that it may be isolated under certain circumstances free from iodine, as for instance, in parenchymatous goitres, where it is derived chiefly from the cells and not from any secreted colloid. In colloid goitres, the colloid material is found to be very much poorer in iodine than that of the normal thyroid, and this probably affords the promised explanation of the existence of symptoms of hypothyroidism, even in patients who have goitre. It also explains in a way the beneficial effects of iodine in cases of goitre which may some times be greatly ameliorated by its administration.

What the function of this iodine-containing substance is, however, is a question that we cannot answer—a problem of fundamental importance in physiology and pathology.

Nevertheless, in spite of our ignorance of the nature of this secretion, there is much comfort in the fact that the treatment of the various conditions we have mentioned with the thyroid extract gives very good results. Naturally, it is not possible to convert the "sad old infant" of thirty or more years into an intelligent man, nor to restore the aged cretin to a better life, but with the myxoedematous children the effects of thyroid medication together with education are wonderful. The application of the same medication to various skin diseases has often been similarly successful, but on what grounds we do not know.

I have said that the result of the operative extirpation of the thyroid is invariably the operative myxoedema, and this is literally true, but practically there frequently intervenes in such cases a set of symptoms which have long been spoken of as the acute symptoms of thyroid insufficiency, the so-called *tetania thyreopriva*. This phenomenon can be readily produced in animals, and is due, as I may state briefly, not at all to interference with the thyroid, but to the coincident extirpation of the parathyroid glands. I need not stop to describe the structure nor the history of these glands, nor even to relate the experiments of Gley, Vassale, and others who have proven conclusively that the loss of the thyroid alone results only in myxoedema, while the loss of the parathyroids alone results in tetany, or in a rapidly fatal condition in which a kind of cachexia replaces the tetany.

Here, again, we are met by problems of a fundamental nature, whose appearance I foreshadowed in beginning. It is possible to conceive of the parathyroid, tiny structure as it is, as furnishing some material essential to the metabolism of the body, or as neutralizing a poison formed in the ordinary course of metabolism, and it is to the latter of these views that I have been led to lean by experiments, which showed that when a parathyroidectomised dog had passed into tetany it could be saved and restored to an apparently normal condition by bleeding and the infusion of salt solution into the veins. Similarly that the tetany is due to a poison which acts upon the central nervous system, and probably chiefly upon the medulla, can readily be shown by the elimination of the other possibilities. As to the origin of this poison or its more intimate nature we can however say nothing, except that it may be neutralised by the administration of the parathyroid extract.

I have not been able so far, however, to produce tetany in another dog by the injection of the blood of a tetanic dog, even when all but one of the parathyroids of the first dog had been removed.

What application of these facts we may ask can be made to human pathology—certainly we have the operative tetany, which is exactly similar to that in animals, and which I feel sure could be relieved temporarily by bleeding or infusion of salt solution, or both, and probably permanently by a continued medication with parathyroid extract, but as to spontaneous conditions we can speak only with reserve. The names of many convulsive diseases have been suggested in this connection, but the importance of the parathyroid as an ætiological factor remains to be proven. Various types of epilepsy, for example, and particularly the so-called myoclonus epilepsy, have been ascribed to its insufficiency. I have, however, examined the parathyroids in a few cases of epilepsy—

even including cases dying in the status epilepticus, and have found them normal. Similarly, without any anatomical basis of fact, eclampsia gravidarum and various types of convulsions in children and tetany in adults, have been suggested by Jeandelize as possibly depending upon insufficiency of the parathyroid.

In a recent address in England, Prof. Gley, who has added so greatly to our knowledge of these glands, suggested the possibility that their partial insufficiency might form the basis of exophthalmic goitre, a disease whose peculiarities are familiar to you all. We have entertained the same idea, and have examined the parathyroid glands in several cases without being able to arrive at a definite conclusion. In several cases no parathyroid gland tissue was found at all, but since these were operative cases it is probable that the glands were merely left behind. In other cases the glands have been found, and appear to be unusually small. In one case the structure was normal, while in three others there was an excessive amount of connection tissue throughout the gland in which the epithelial cells were atrophic. No definite conclusion may be drawn from such scanty observations, however, nor is the negative result of parathyroid therapy, which has been attempted in several cases, conclusive. Nevertheless, the fact that the beneficial results of extirpation of half of the goitre in these cases seem not to be influenced by the occasional removal of one or two of the parathyroids forms an argument against the idea that the symptoms are due to their inadequacy.

The most widely accepted theory as to the aetiology of this interesting disease—that of Moebius which assumes an excessive activity of the thyroid gland as the cause of the symptom—is supported by the facts that the gland is usually enlarged, that certain thyroid extracts aggravate the symptoms and that the extirpation of part of the gland is usually followed by an amelioration of those symptoms. It is, however not at all an invulnerable theory, for in the beginning we have no definite proof that there is hypersecretion—indeed often no colloid whatever is to be found in the gland, and Oswald's analyses show that the sum of its thyreoglobulin is often poorer in iodine than that of the normal gland. The somewhat lame hypothesis is however always adduced that the secretion is carried away so rapidly that none is left in the gland.

It may be further objected that no one has ever produced exophthalmic goitre by introducing excessive quantities of thyroid material into the animal body, indeed it seems probable that most of the untoward symptoms that have been so produced were due to impurities in the extract and to the fact that these extracts are often made from

decomposing thyroids, and repeated observations have tended to show that perfectly fresh thryoids have no such unpleasant effects. To meet this objection it is generally stated that the alteration in the secretion of the gland produces not so much a hyperthyroidisation as a dysthyroidisation or overflowing of the body with an altered thryoid secretion. It seems remarkable that no one has heretofore systematically tried the effect of feeding the thyroid from cases of exophthalmic goitre, and with this in view I have collected the glands from a number of cases but as yet have not accummulated a sufficient quantity for a conclusive experiment. One gland has been fed to a dog with negative results; but the quantity is so small that one can draw no conclusion from such an experiment. Aside from the methods of treatment of this disease by extirpation of the goitre, the method of Ballet and Enriquez, Lanz and Möbius is of interest as being based entirely on the theory of hyperthyroidisation. They treat the patient with the serum or milk of a thyroidectomised animal in the hope that the substances left in the blood of that animal and not neutralized by thyroid secretion, may furnish material for the activity of the superfluous thyroid secretion in the patient. Other methods in which the secretions of other glands or organs such as the thymus are employed are of less interest although as in every attempt at the treatment of this disease they boast of some successes.

Even though it be proven, therefore, by further research that the excessive or perverted secretion of the thyroid produces the symptoms of exophthalmic goitre we shall still be quite in the dark as to the cause of this alteration in the thyroid so that our information as to the disease is far from satisfactory.

In the case of the adrenals, while the anatomy is clearly enough known, we have again only scattered bits of information as to the physiology, chiefly obtained from the experimental extirpation of the glands and from the study of the chemical substances obtained from them.

When one adrenal only is extirpated the animal may live and it is afterward found that the remaining adrenal has become hypertrophied. When both are extirpated, however, the animal always dies within a relatively short time, with symptoms of extreme weakness and apathy, lowering of the blood pressure, slowing of the heart, weakening of the respiration and sometimes convulsive seizures.

These symptoms are explained as due to the loss of a specific secretion of the adrenal whose function it is to maintain the tone of the muscles and of the vasomotor centres as well as the respiratory and sympathetic functions. This blood pressure raising material is thought of as the specific secretion of the gland and efforts have been made to recognise it

in the blood of the suprarenal vein. Indeed, Strehl and Weiss state that after extirpating one adrenal the blood pressure may be lowered or restored to normal by merely clamping and releasing the vein of the other. Dr. Abel, however, points out in his recent paper (Vaughan's Festschrift) that the effect of such an experiment is far greater than would be the effect of the amount of adrenal priniciple secreted in that time and that it is doubtless due to the operative interference acting upon the vasomotor nerves. Further, he states that even although these decapsulated animals may be revived by the injection of adrenal extract, it is probable that other stimulating substances would do as well, and that the blood pressure raising substance is not the essential specific principle of the gland. Nevertheless, this adrenal principle which can be isolated in such a condition of chemical purity that it is possible to assign to it a formula, is of great physiological importance and in the animal body does produce effects which form practically the antithesis of those symptoms which result from the extirpation of the gland as far as we can recognize them.

On the other hand, the adrenal has been looked upon by many as an organ serving to neutralize a poison which without its influence would accumulate in the blood. It has been shown that the blood of decapsulated animals is poisonous for others in which a partial extirpation of the adrenals has been performed but that this poison may be neutralised by the addition of adrenal extract. Abel, while recognising the complexity of the substances dealt with, leans to this view also and suggests that the toxic material which accummulates in the blood may be the precursor of the substance extracted from the adrenals. The relation of the nerves is still more obscure. Section of the splanchnics and indeed of all the nervous connections of the adrenal produce no such effects as are seen after the extirpation of the whole gland.

[Following this the symptoms pathology and aetiology of Addison's disease were briefly discussed and the difficulties in the explanation of the symptoms on the basis of our present knowledge of the adrenal function brought forward.]

Even more difficult to explain than those cases in which the adrenal lesion is obvious are those in which no anatomical change is found. Neusser relies upon a functional disturbance of the nerve supply to explain them saying that the loss of function of the adrenal may be due to a lack of the proper trophic and secretory impulses from the splanchnics which may be conceived of as affecting the gland in the same way as the sympathetic affects the submaxillary gland. This loss of function of the adrenal would then recoil to produce further nutritive

and functional disturbances of the sympathetic, allowing at the same time the development of a general autointoxication.

The lowering of the blood pressure may probably be explained by the lack of that tonic secretion and it is possible as Neusser explains that this by widening and filling the abdominal veins may leave the extremities bloodless and the muscles hence easily exhausted. These are mere hypotheses though and it is quite as possible that in the general autointoxication which is assumed to exist the muscles and nerve cells may directly suffer. The explanation of the appearance of the pigmentation is still more difficult and in the present state of our knowledge it is as well to say outright that it is not understood.

Certain of these phenomena at least seem open to experimental investigation. It could surely be decided by operative interference whether lesions of the sympathetic could produce such conditions as are seen in Addison's disease. So far there seem to have been no especially definite results obtained from such isolation of the adrenals from nervous influences.

Possibly light may be shed on this complicated subject when we become able to distinguish the function of the cortex of the gland from those of the medulla a task which seems impossible in the higher animals but which might be carried out on sharks where these portions of the gland are quite widely separated.

As to specific therapeutic measures little can be said that is satisfactory. The various extracts and purified substances are all extremely active in producing the effects detailed above—contraction of blood vessels, elevation of pressure, etc., but their ingestion or subcutaneous injection, while producing sometimes a temporary amelioration of the symptoms, cannot be said to have a definite and specific curative influence. Possibly better results might be obtained by intravenous injection but the suggestion of Abel remains that probably this blood pressure raising substance is not the essential principle which is required when the adrenal is destroyed. Implantations of fresh adrenal glands have been similarly attended with little or no success. On the whole, therefore, the treatment of the disease is not satisfactory. A recent paper by Adams (Practitioner, Oct. 1903,) reviews 87 recorded cases in which he finds a considable percentage of improvements and apparent cures—the most favorable conditions are of course afforded by those cases in which the adrenals are converted into scars while the other organs remain intact.

In the hypophysis or pituitary gland, we meet again with the same problems—the anatomy of the organ is sufficiently well known but the physiological significance of its various constituent elements is far from

clear. We know practically nothing of the function of its nervous portion nor have we any definite idea of the differences in nature between the cyanophile, eosinophile, and other cells which go to make up its glandular portion. Many attempts at the extirpation of this organ in animals have been made but it cannot be said that the results of this difficult experiment have been quite satisfactory or convincing, for while some authors (Horsley) have found no effects whatever, others (Vassale and Sacchi) have succeeded in producing such general symptoms as apathy, somnolence, dyspnœa, temperature, depression, emaciation, and muscular spasms. Schäfer and Vincent extracted two substances from the gland one of which raises the blood pressure on being injected while the other depresses it. Similarly Howell found a substance which would elevate the arterial pressure.

There is once more a disease the so called acromegaly which is thought to depend upon changes in the hypophysis, since it is so regularly accompanied by these changes. The alterations in the bones and other parts in this disease are so familiar as to need no discussion here. Sometimes when it begins in early life giant growth may ensue, although by no means all of the giants that are seen in our museums and circuses are acromegalics.

Autopsy in these cases of acromegaly shows various lesions in the different organs, the only constant change, however, being the enlargement of the hypophysis, either in the form of a general hypertrophy, or adenomatous growth, or as the result of the development of a destructive malignant tumor there. Usually the thyroid is also enlarged and presents the appearance of a colloid goitre.

Many questions as to the relation of these changes to the causation of the disease suggest themselves. We may ask for example whether the alteration of the hypophysis is primary or the result of a general disturbance which requires an effort on the part of the gland. Are we dealing with a gland whose activity is increased or have we in spite of its enlargement an organ which tends to be insufficient like the colloid goitre? Those cases in which the rapid appearance of symptoms of acromegaly after the destruction of the gland by a malignant tumor seem to lend some evidence to this latter view. Of interest too is the enlargement of the thyroid in this connection since it has been repeatedly stated that in cases of myxodema and cretinism there may be an enlarged hypophysis which is thought to compensate in a way, albeit imperfectly, for the loss of the thyroid.

The organ lies in such an inaccessible place that it is extraordinarily difficult to carry out extirpation experiments. Yet it seems that it is

from such experiments performed in newborn as well as older animals that we may hope for light on the question.

The other method of investigation—the determination of the effect of extracts of the hypophysis has led to very indefinite results only. Numerous cases of acromegaly have been so treated and frequently improvement of certain symptoms has resulted, but striking change in the physical alterations could hardly be expected.

Of the pineal gland or epiphysis, the supposed remains of a third eye which shows its origin only in lower vertebrates, we can say practically nothing. Tumors have been described as developing from it, but no special disease is known to depend upon its destruction. In one case of epilepsy, which died in the status epilepticus, I have found it almost entirely atrophied, but in another similar case the pineal gland was large.

Cimmerian darkness, too, broods over the carotid and coccygeal glands, structures in which the abundant bloodvessels are surrounded by mantles of specialized cells of connective tissue origin. Beyond descriptions of their histology and of the structure of tumors originating from them we have no information regarding them.

I have reserved for the last, one of the most interesting of these organs, chiefly because there has come to us quite recently, knowledge which, as it seems to me, must shed a flood of light back upon those dark paths through which we have come. This organ is the pancreas whose relation to certain forms of diabetes mellitus is well known. I need not detail the experiments which showed that extirpation of the pancreas produces this condition. Our interest hinges chiefly on that later time when Schultze, Opie and others, from their experiments and anatomical findings, concluded that it was not the general acini of the gland that controlled the disposition of glycogen in the body, but rather the islands of Langerhans which were left after the destruction of the rest, and particularly on the observations of Opie and those who have followed him, showing that when the islands of Langerhans are destroyed diabetes results and that in cases of pancreatic diabetes the islands are destroyed. These islands consist, like the other glands which we have considered, of solid strands of cells lying between and in direct contact with capillaries. They develop apparently from the ends of the original epithelial tubules that form the acini, but are later quite separate. Therefore we may feel sure that they have no outlet for any secretion other than the lymphatics or veins in their neighborhood. The destruction of the remainder of the pancreas by any cause such as the occlusion of its duct does not necessarily affect them, and they may come to be isolated in a bed of connective

tissue. In pancreatic diabetes, however, Opie has found that they are picked out by the destructive agent and are alone converted into a hyaline material and destroyed while the rest of the pancreas continues to secrete. Nevertheless diabetes appears with its characteristic glycosuria. Naturally the idea arose that these structures presided over glycogen metabolism, and quite naturally in the general reaching out for such specifics pancreatic extract has been given in diabetes, but usually without any satisfactory result possibly because such an extract must necessarily be very dilute since the islands are so small.

Now it has been observed (Pawlow) that in certain instances a combination of secretory products is necessary for their effects to be perfected—for example, tryptic digestion is dependent upon the admixture of the intestinal secretion with the pancreatic secretion. The one seems to act as a complement to the other. Again, while the probability seemed inevitable that an extract from the pancreas ought to effect the metamorphosis of carbohydrates, no such effect can be produced by mixing the two—nor will an extract or juice from voluntary muscle do any more toward burning up the carbohydrate which must furnish it with energy. With a happy inspiration Otto Cohnheim, in a recent paper, describes experiments in which, while he confirms the statements which we have just made, he succeeded in producing such a disappearance of carbohydrate in a mixture of muscle extract and pancreas extract as would correspond with the extensive consumption of carbohydrate by the energy-liberating muscle. Here, then, seems to be the key to the riddle. The pancreas by itself can effect no change in the carbohydrate—no more can the muscle alone—therefore when the islands of Langerhans are destroyed the glycogen is not used up by the muscles but accumulates everywhere in the tissues. When however the organs are normal the inner secretion of these islands is carried to the muscles, and in combination they readily effect the setting free of energy from the glycogen.

What a field of speculation and experiment this opens. Shall we not return at once to the thyroid and to the parathyroid, and seek out their complementary tissue. Shall we not find in this idea the clue to our difficulties with all of these organs, and is it not possible even that in those obscure diseases such as gout, rickets, osteomalacia, eclampsia, epilepsy, and many others, the grosser or servant tissue may first be thought of, and thence the clue to the finer governing tissue to be found. Just how these processes are to be explained is still not clear—possibly the theory of Ehrlich may be applied here, and the secretion of these

glands come to represent a complement to the antibody formed by the other tissue. Who can foretell without experiment and thought?

It is therefore to this great field so rich in problems that I have hoped to call your attention, confident that if, with your new facilities you approach it, you will surely be richly repaid.

LEIOMYOMA.*

By J. O. TODD, M.D., Gynæcologist, Winnipeg General Hospital.

IT is somewhat apparent that a pathologist has influenced the naming of this paper; for the term leiomyoma is more favored by gentlemen of the microtome and compound lens than it is by clinical and operating gynæcologists. The tumor I present for your notice to-night is one that, grossly, could be called a fibrous growth; but a glance through the barrel of the microscope there shows it to be made up of a large amount of muscular tissue of the non-striated variety mixed with fibrous tissue. We have then before us a growth made up of both muscular and fibrous tissue and not either one alone. It seems to me then, to be as unfounded to style the tumor a leiomyoma as it would be to call it a fibroid; hence until more is known of the aetiology of these tumors, I prefer to designate this growth a fibromyoma. This uncertainty in nomenclature is clearly indicative of our defective aetiological knowledge; and, in truth, this department of our subject is a maze of theory. Beginning with Velpeau's teaching of the organization of a blood-clot we come to the allied theories of Klebs, Kleinwächter, Gottschalk and Pilliet who in varying fashion have attributed these growths to the proliferation of the connective tissue and muscular layers of the uterine blood-vessels. Of these the theory of Pilliet is given especial prominence by Bishop in his recent book on myomata. Pilliet traces the the allied growths of sarcoma, fibromyoma and telangioma from respectively; (1) the endothelium of the blood-vessels; (2) the muscular and connective tissue layers of the vessel and (3) to a complete new-formation of capillaries. Williams in his recently published book on uterine tumors, practically gives place to no other view than that of Von Recklinghausen which associates the origin of myomata with defects in development. From this standpoint embryological remnants of the Müllerian or Wolffian ducts become included in the normally developing uterine tissue to take on proliferative changes under favorable provocation. Senn, of Chicago, views the origin of myomata from myoblasts which have been deposited during development. The last of the knots in the aetiological kite-tail is the inevitable microbe some having

* Paper read before the Winnipeg Medical Society, Dec. 11th, 1903.

endeavored to associate protozoic forms as the ultimate factors in the production of these growths. Throughout all this tangle of theory one fact predominates, viz.: the intimate relation of the origin of these tumors to the blood-vessels and their immediate vicinity.

The history of this case is as follows:—Mrs. O. G——., aet. 45, was admitted to St. Boniface Hospital, February, 1903, under Dr. Dubuc, by whom she was referred to me, February, 21st, 1903. Patient complains of an abdominal swelling and bleeding. She has, up to the present, been a remarkably healthy woman, married twenty years, has had nine children all living, confinements normal. Four years ago she had a miscarriage and since that occurrence she has menstruated every three weeks instead of every four as formerly; also the flow has been more profuse though lasting, until latterly, only four days. She also noticed that following this miscarriage she never regained her former figure, being fuller in the abdomen, one and one-half years ago she observed her abdomen to be markedly enlarging and five and one-half months ago she miscarried for the second time, again she found that she was larger subsequent to than preceding the miscarriage. The most marked increase in her size has been during the last four months. The last menstruation was two weeks ago, the flow has been steadily increasing for a year and of late has been very heavy mounting almost to a hæmorrhage. The only symptoms otherwise exhibited up to quite recently have been attacks of palpitation of the heart and fainting spells. The present condition is that of an exceedingly well nourished woman presenting an abdominal enlargement measuring about the umbilicus four feet three inches, the enlargement is smooth, very hard, uniformly distributed, the uterus cannot be distinguished bi-manually, there is no tenderness, urination is frequent. Examination of the thorax detected extension of the cardiac area of dullness to the left of nipple line.

The specimen here shown is a single, non-encapsuled, soft uterine fibromyoma of the intra-ligamentous variety. It has arisen from the left side of the lower part of the body of the uterus and, after separating widely the layers of the broad ligament, has lifted its head out of the pelvis and pushed its way behind and to the right of the uterus, raising forward and upward the appendages on either side. It had become intimately connected with the intestines and omentum and received, during life, by far the greater part of its nourishment through the vascular connections thus established, for its pedicle was extremely smal as can be seen. This attenuation of the pedicle is an interesting feature in the growth of the pedicled fibroid. It is held that by the extreme attenuation of its pedicle, the myoma may detach itself completely from

the uterine base and thus form those curious tumors found absolutely free, like a ball, in the abdominal or pelvic cavities. Numerous authorities have described these wandering fibroids, notably Depaul.

The uterus in this case, as is usually seen in myomatous formation, is greatly hypertrophied and a section taken from its wall shows little difference from that of the tumor, except that it is less vascular. The endometrium is much hypertrophied though the uterine cavity is not greatly enlarged, a fact noticed in the initial passage of the uterine sound when making the diagnosis. There are no special changes noticed in the appendages such as are commonly met with. In this second specimen taken from a myomatous uterus double hæmato-salpinx existed and I have removed pus tubes from the myomatous pelvis. The commonest adjacent and distant changes noticed in fibroid cases are endometritis, pyosalpinx, hæmatosalpinx, cardiac hypertrophy, phlebitis, intestinal obstruction, renal changes, torsion of the pedicle and pelvic incarceration. In this case besides a commencing dilatation of the left ureter there was clinically observed a marked enlargement of the heart associated with functional disturbance for she had been having attacks of rapid heart action for some time past; and the great rapidity of the heart was a symptom following the operation that persisted, as the charts here show, for several days. The question of the original site of this growth is interesting. Williams states that "myomata may arise from either of these uterine layers; but most of them originate in the thick intermediate part, whatever position they may subsequently acquire." Over 90 per cent. of fibroids, according to the most accepted statistics, occur in the body of the uterus; only rarely do they arise from the cervix; the fundus and posterior wall of the uterus are their favorite sites. This growth manifestly arises from the lower part of the body on the left side.

The tumor weighed 32 pounds on removal, which for a solid growth is unusual, the most of the heavily weighing myomata having become cystic. Stoddart reports a fibro-cyst weighing 135 pounds. Hunter, of New York, records a solid growth of 140 pounds, removed from a cadaver, the body itself, devoid of the tumor, weighing but 95 pounds Others have reported growths, usually cystic weighing 40, 60 and even 90 pounds.

Fibromyomata frequently undergo degenerative changes, the most frequent being that of sclerosis. The term atrophy has been applied to this change but it does not seem to be a desirable one, since the process is but a substitution of fibrous for muscular tissue. Subperitoneal myomata most commonly take this course. This atrophy or sclerosis is a desirable state and would seem to be favored by the electrical treat-

ment though to claim a cure from such is scarcely justifiable since a large number take on this change quite voluntarily. The specimen here shows no such tendency ; on the contrary muscle fibre largely predominates and the tumor was extremely vascular at excision. No evidences are present of calcification, softening, myxomatous or colloid changes and contrary to the observation of some writers pregnancy would seem to have favored rather than deterred it. That these growths may disappear after pregnancy cannot, I think, be doubted. Many have reported such occurrences. Inflammatory activity is a frequent corollary of myomatous growth. In nearly every instance of my own, more or less inflammatory action has been present giving rise to those attacks of pain and pyrexia so often noticed in their clinical history. Gangrene may ensue in cases, as is evidenced by this specimen of polypoid fibro-myoma which I removed recently. The question of carcinomatous and sarcomatous degeneration of myomata is a much discussed one and authorities are divided on the point. Probably the question will not find settlement until more is known of the aetiology of myoma ; for old as is their history, and it stretches backwards into the far distant ages of Aetius and Oribasius, we yet know little more of their origin than did those worthies. Clinically there is very strong evidence favoring those who hold that such changes do take place and at present we can do no more than say that benign growths of a clinically fibromyomatous character may take on malignant features. In this connection Williams says " the contention of Klebs, Krische and others that ordinary myoma may recur, disseminate and manifest malignant properties without undergoing histological metamorphosis, should not be lightly entertained.

With regard to the treatment of fibromyoma the results of medicinal and electrical measures seem to me to entitle them to rank as palliative agents only. That they can lessen pain, check hæmorrhages and generally improve the condition of the patient, is, I think, indisputable ; that the atrophy, expulsion and even disappearance of these growths observed under their administration is favored by their special powers, is supported on theoretical and some clinical evidence. Still all of these results may come in the natural course of these growths and the difficulty of establishing them as the effects of the remedies used is obvious. Failing to obtain from such measures a satisfactory remedy surgical methods have been invoked ; and it is interesting to note that the ideal before physicians has kept itself to the fore of surgeons, to such purpose, that they have long endeavored to find some means that would throw in its weight with nature to aid the natural tendency of fibromyomatous tumors to limit their growth. Hence we have measures which to me take no higher

rank, as efficient agents, than drugs and electricity, such as curetting, incision of the cervix, incision of the capsule, ovariectomy, and ligation of the main arterial trunks. From these we turn to the radical measure, removal. Removal may be effected in varying degrees giving us (1) enucleation, (2) myomectomy (3) partial hysterectomy and (4) panhysterectomy. In our case to-night partial hysterectomy appeared to me, at the time of the operation, to be the indicated measure and to this end I adopted, from the many techniques, that amplified by Kelly, of Baltimore. Commencing on the left side ligatures were placed successively around the ovarian, round ligament and uterine arteries and followed by incisions till the cervix was reached and crossed when the opposite broad ligament was ascended step by step after the same fashion. The adhesions were very extensive and the left ureter had to be dissected from the tumor for three or four inches. The stump was closed by buried catgut sutures and the peritoneum drawn over and stitched to cover the stump. Hæmorrhage was slight and the most worrying symptom following operation was the rapidity of the pulse. With this exception the patient proceeded to an excellent recovery and is now well and doing her own work. I am indebted to Dr. Dubuc for his reference of this case as well as for his assistance in every stage of its course.

THE PRETYPHOID FEVER STATE.*

By ROBERT D. RUDOLF, M.D. (Edin.), M.R.C.P. (Lond.), Associate Professor of Medicine in Toronto University.

BY the term pretyphoid state is here meant a state of health, or rather of ill-health, which occasionally precedes for perhaps some weeks the onset of enteric fever. I think that every physician will recall cases in which for weeks individuals have complained of indefinite symptoms, malaise with want of appetite, dyspepsia and disturbance of the bowels, usually in the direction of constipation, often attended by some irregular fever; and then at last a regular attack of typhoid sets in. As the laity would say the condition "turned to typhoid." This period of general ill-health preceding the onset of typhoid is what is here referred to.

The questions which naturally arise in connection with the subject are the following:—

1. Is it true that a stage of ill-health precedes typhoid sufficiently often to warrant special notice? In other words, is typhoid fever more often heralded by a period of ill-health than can be accounted for by mere coincidence?

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*Read before the Toronto Clinical Society on January 6th, 1904.

2. If the first question be answered in the affirmative, then what is the essential nature of this stage?

I. It has fallen to my lot to see a good many cases in which, after weeks of ill-health of a more or less intestinal type, typhoid fever has set in, usually of a severe type. From the study of the case records of others, and from conversation with fellow practitioners, I do not think that my experience is peculiar, yet no text book that I have seen even mentions the point. Let me give a few examples.

Case I. An indigo planter, aged 30, a typically healthy looking, athletic man, living most of his time out of doors, began to complain in February, 1896, of feeling weak and out of sorts. "My stomach seems all out of sorts and I am constipated," he wrote. Under careful dietary and a mixture containing cascara sagrada he improved temporarily, and early in March was feeling much better in a gastro-intestinal way, but still suffered from limpness and faintness at times. He looked poorly and had lost weight, and his friends began to suggest a trip home to England (that Anglo-Indian panacea for all troubles of mind or body). But it was not to be. In April he got rather suddenly worse, and before the end of the month died of malignant typhoid fever.

In this case a previously healthy man had two months of ill-health, which for him was quite unusual, before the typhoid fever set in.

Case II. A girl of 5 years of age was first seen in November, 1901, for an indefinite illness, which was put down as influenza of the gastro-intestinal type, as influenza was raging at the time. The child was dull, had slight irregular fever, the tongue was furred, the bowels constipated, and she complained of nausea. A good deal of improvement occurred under treatment, but she did not get well, and on 24th December was again in bed with gastro-intestinal symptoms. I saw her again on 18th January for apparently the same condition, with the history that she had not been herself for two months. Now she had a sore throat as well as the gastro-intestinal disturbance. She grew steadily worse, and on 23rd January, that is on the 8th day of the last definite attack, and fully two months since her indefinite ill-health began, she first gave a positive Widal reaction, and was suffering from a severe attack of typhoid fever. She eventually completely recovered, although for months afterwards she was subject to slight gastro-intestinal disturbances, with a rise in temperature to perhaps 103° Fahr., in fact had a prolonged, what one might call post-typhoid stage, although such a term might be open to objection.

Caes III. A female child aged 2 years, previously quite healhty, began in August to suffer from slight looseness of the bowels with occasional

attacks of vomiting and marked anorexia. Her temperature would go up to 103° on such occasions and she would be limp and dull. The administration of castor oil always improved this state of things and after a few days she would be better again but never quite well. This condition continued until December when an apparently similar attack gradually became worse and soon it became evident that she had contracted typhoid fever and the Widal reaction was positive on Xmas day. The disease ran a severe course with two relapses, but eventually complete recovery occurred.

The records of such cases could be amplified considerably from my own experience and I feel confident that most physicians could add largely to the list. I looked through the records of cases at the Sick Children's Hospital for the past few years to see if such a history of previous ill-health was often noted, and must admit that it was seldom described. We must remember, however, that in taking histories of cases we all are too apt to make the record fit in with our preconceived ideas of what it should be and thus an indefinite feeling of ill-health would be very apt to be missed. In three cases, however, some note occurs of previous ill-health and in one it is so typical of the condition I am describing that I give it here verbatim.

CASE IV. Patient (a girl of 11 years) has felt miserable since the first of August. Was sent away for a holiday at end of September and while still away was taken ill—feverish, headache and general tenderness. Now (6th October) admitted for typhoid fever.

So much for some examples. I do not for a moment contend that typhoid fever is always or even generally preceded by the stage of ill-health. On the contrary, I have seen many that appeared like a storm in a clear sky, and in fact communicated at another society (Tor. Med. Soc., Jan. 10th, '01) a case which I saw with Dr. Peters in which the first symptom of the disease was a temperature of 104.° But in my experience it is a common thing for such a period of ill-health to anticipate typhoid fever.

I need scarcely say that most cases of continued ill-health of a gastro-intestinal type do not end in typhoid fever. They simply recover. Some, however, may develop into one of the paratyphoid conditions in which with an enlarged spleen, an eruption of rose spots and a remittent fever no Widal reaction occurs, the disease being due not to the Eberth bacillus at all but to one of the allied forms. I communicated such a case at another medical society nine years ago, (Tor. Med. Soc., Oct. 28, '98).

If it be conceded then that typhoid fever is often preceded by several weeks of ill-health (and to my mind the answer must be in the affirmative) then we can go on to discuss the second question. In what does this stage consist and what is its relation to typhoid fever?

Two possibilities present themselves.

a. That it is a lowered state of health from any cause, but especially associated with gastro-intestinal disturbance, which predisposes to typhoid infection by lowering the local or general resisting power of the individual.

b. That the typhoid bacillus may be in the intestine for weeks setting up a certain amount of disturbance before, either due to its increased virulence or to the lowered resistance of the host, true typhoid fever occurs.

As regards the first proposition it may be taken as proved that gastro-intestinal disturbance predisposes to such infections as dysentery and Asiatic cholera. The catarrhal condition which we may presume exists in the stomach and intestine during such disturbance lowers the resisting power of the mucous membrane to these specific infections. Practitioners in the tropics are very chary in the administration of purgatives when cholera and dysentery are about and such disturbing agents as over-ripe and under-ripe fruit are avoided by the natives as being likely to cause these diseases Is it not likely that in the same way a person suffering from a gastro-enteritis due say to any cause will be more likely to become infected by swallowed typhoid bacilli than one whose local and general health are good. By many the hydrochloric acid secreted during digestion is considered to be a safeguard against infection and experimentally animals must have this acid neutralized before they can be infected with cholera and probably typhoid via the mouth. (Levy and Klemperer Clin. Bacteriology, page 192). The secretion of this acid is apt to be deficient in gastric catarrh.

Dr. Shattuck, (Reference Handbook of the Med. Sciences Vol. VII. page 916), says recently "that the robust are quite as likely to be attacked by typhoid as the feeble and in the opinion of some are even more prone." but Dr. Seymour Taylor writes in a *Lancet* of last November, (Nov. 21st, 1903, page 1416), that "It is a notorious fact in all our military campaigns whether in South Africa or in the Nile Valley or in Northern India that those soldiers, especially the younger ones, who suffered from catarrhal affections of the bowels were more readily attacked by enteric fever than were their comrades who were in perfect health."

As regards the second proposition, *i. e.*, that the occasional pretyphoid ill health may be due to typhoid infection from the first (in which case

the name pretyphoid is a bad one) the probabilities seem to me to be opposed to this view.

But still something may be said in favor of this proposition. It is sometimes argued that "camp fever" in which typhoid fever breaks out in a camp of healthy men who have been weeks away from any settlement, is caused by the bacillus of typhoid lying latent in the intestine of some of the men for perhaps weeks. Again, when true Asiatic cholera is raging, cases of simple diarrhœa are common and are probably due to the comma bacillus as they can be produced in animals, while in other animals the same dose will give rise to the true cholera. Also when an epidemic of typhoid is raging there are often many cases of simple diarrhœa about. May not the typhoid bacillus be the cause of many of these. In some, nothing more will happen, the organism overcoming the invading bacilli, while in others after a more or less prolonged fight (producing during its course some gastro-intestinal disturbance and ill health) the invaders win and true typhoid fever occurs.

However, taking everything into consideration it seems probable that the first proposition is the true one and that when typhoid fever is preceded by ill health this ill health is due to some other cause, which by lowering the resisting power of the individual lays him open to typhoid infection.

The lesson to be learned from these notes, if any, is that when typhoid is about, cases of indefinite gastro-intestinal disturbance should be treated with special care, and as far as possible their infection prevented. In military camps also, where the milk and water supply is suspected, these should at least be boiled for all those suffering in this way

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ANGINA PECTORIS.*

By JOHN CAVEN, B.A., M.D.
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TO define angina pectoris in terms of anatomical changes is at present impossible; to define it at all is not easy. Like many other terms used in medical science the word "angina" now covers a good deal more than is to be found in it etymologically. According to derivation the word means a "strangling" or "constriction," and is ordinarily used by European writers in speaking of throat affections accompanied by swelling, with consequent obstruction to respiration; as commonly employed amongst ourselves it becomes synonymous with "heart pain," and such an adaptation of the word is easily understood. Heberden, who first applied the term "angina pectoris" to the complexus of symptoms of

*Read at the Toronto Pathological Society, 26th December, 1903.

which we are speaking, had in his mind chiefly the sense of oppression within the chest combined with mental distress rather than pain. His own words are: "The seat of it and sense of strangling and anxiety with which it is attended may make it not improperly to be called 'angina pectoris.'" That he was not unmindful of the pain is shown by his further statement: "Those who are afflicted with it are seized while they are walking, and more particularly when they walk soon after eating, with a painful and most disagreeable sensation in the breast, which seems as if it would take their life away if it were to increase or continue." The pain which is so characteristic evidently did not weigh so much with Heberden in his estimate of the symptoms as it has with most others since. When we come to study more modern authorities we find an essential agreement as to the outstanding symptoms by which angina pectoris is to be recognized, even though there be differences of opinion as to the propriety of sub-dividing, as for example, into the true and false varieties.

Lauder Brunton says: "In a typical attack the patient is suddenly seized with severe pain in some part of the cardiac region"; "the pain is accompanied by a peculiar sensation of oppression"; "in severe cases the patient feels as if death were impending."

Gibson's statement is in some respects peculiar. He makes pain the great central fact of angina pectoris and close by speaks of the sense of impending death being always present, thus making the latter symptom the real differentia. Osler says "Angina pectoris is not a disease but a syndrome or symptom group (without constant ætiological or anatomical foundations) associated with complex conditions, organic or functional, of the heart and aorta. Pain about the heart of an agonizing character occurring in the paroxysms is the dominant feature of all varieties of the syndrome." Taking these as short examples of what we may expect to find in recent authoritative statements, we may say that in a description of angina pectoris the chief points are the recognition of the subjective symptoms of heart pain, thoracic oppression and mental distress. Were it possible to complete the definition of angina pectoris with the simple statement of the cardinal symptoms as above our difficulties, (leaving out of sight morbid anatomy) would seem trivial after all.

When we come to consider, however, that there is generally recognized an angina pectoris without pain, (Gairdners angina sine dolore), that, as Brunton says, the fear of impending death may be absent in non-severe cases, that a division into cases which tend to end fatally and cases which have no tendency seems unavoidable, and that moreover, it is sometimes hard, if not impossible, to say to which class a given case

belongs, the real difficulties of reaching a concise statement are abundantly apparent.

I will not attempt further then to clearly define. Before entering upon the morbid anatomy perhaps it would be well to say first a word as to the so-called varieties of angina pectoris even although for the purpose of the anatomist, there is under the present conditions of knowledge but one and that the one in which the individual suffering from the symptoms has shown after death certain various heart changes.

A division has been made into a true and spurious heart angina, angina pectoris vera and angina pectoris notha, and strong exception has been taken to such a classification on the ground that since a group of symptoms is alone indicated by the name there can be no true or false; it is angina pectoris or it is not; in other words, that the division involves a contradiction in terms. Strictly speaking this objection is well taken, but until our means of ascertaining intra vitam the morbid changes at the bottom of the symptoms in any given case are much more perfect than at present, the classification seems useful. It is found that of some cases the symptoms may be modified by treatment, but that sooner or later death, and that usually sudden will be the result.

The following case illustrates this point well:—

Case I.—Male, age about 65; pain behind sternum on exertion; slight if any sense of oppression or anxiety; iodides exhibited; no recurrence for two years; sudden death in attack without severe pain after climbing stairs.

In other cases, again, distressing though the symptoms may be, treatment not only ameliorates but more or less perfectly removes them, and assurance may be given of freedom from danger of sudden death.

Case II.—Male, not 22; student; working hard; smoking heavily; for some weeks occasional præcordial discomfort; sharp cardiac pain followed by soreness on one occasion after exertion; some days later an attack of very severe pain while walking on street; had to stop for a time; afterwards sick feeling and soreness over præcordium and in shoulder; with tobacco restricted, earlier hours and less work, all symptoms practically disappeared. On resuming old habits angina returned. Has since disappeared again under proper treatment.

The first example illustrates angina pectoris vera; the second, angina pectoris notha. In practice, the difficulty not infrequently arises of assigning to individual cases their proper position, in other words, of giving an accurate prognosis. This difficulty is well illustrated in the following case:—

Case III.—Female, age 43; marked pain in præcordium radiating to shoulder, neck and left arm; pallor, some anxiety, sweating, sense of oppression in chest not marked. Pain most marked after exertion; not paroxysmal, no arterio-sclerosis discernible. Angina first experienced *after attack of pericarditis.* Improving. The sex, time of life, general condition of the patient, and almost complete absence of anxiety, together would incline one to a diagnosis of false angina; but the history of an attack of pericarditis previous to appearance of the symptoms makes one waver. It is worthy of note that in none of the considerable series of cases which Osler has diagnosed as "false" and recorded in his lectures on angina pectoris has mental distress been a symptom. Of these, he says they are still all alive at time of writing; in his true cases the results have been far otherwise. This will recall the statement of Gibson that the sense of impending death is *always* present, whether pain be or not. We might be justified in concluding that Gibson would not diagnose as anginous these cases of Osler's in which the symptom is absent.

Again, the attempt is made to classify according to etiology, hysterical, neurotic, toxic, vaso-motor being terms made use of and divisions of this kind are undoubtedly steps in the right direction because they look to causation even although when our knowledge becomes more exact simplification may be found necessary.

The question now naturally arises, "If angina pectoris be but a symtom complex, and if moreover the simultaneous occurrence of even the chief symptoms is not to be expected in all cases, where is the line to be drawn, and how far are we to go in disignating cases by the name?

Experience seems to show that whenever paroxysms of severe cardiac pain occur we will have the diagnosis of angina pectoris and that the chief error in practice in respect of it lies in failure to recognize those cases of true angina which occur without pain or with the pain referred to the abdomen.

Morbid Anatomy.

The important anatomical changes which have been found in individuals who have, during life, suffered from angina pectoris are those affecting the heart's muscle, valves, and blood vessels and vascular system generally. I refer of course only to such changes as might be seen to have some possible bearing upon the condition in question. Here, perhaps we had better call attention to the fact that what are grossly precisely the same changes occur in very many instances where angina has been entirely absent; indeed, I should

judge, in but a minority of the cases in which such findings have been reported, have we any history of angina. Even leaving out of count those cases in which death occurs suddenly, the first anginous attack being the last also, and where the whole tragedy is completed so rapidly that no statement of subjective symptoms from the patient is possible, even leaving these cases out of count, there are very many in which the symptoms of angina pectoris are absent. Where what we consider its anatomical basis is present, you will notice that I have said that lesions which are *grossly* the same may have failed to give rise to identical symptoms. It may be—nay, assuredly will be—that when our methods and means of research are sufficiently refined, quite valid reasons, chemical or physical, will be found to explain the apparent anomaly.

Lauder Brunton says "the essential lesion in angina pectoris is weakening of the heart" and this is probably a correct putting of the case. By weakening of the heart, we are to understand any changes in the heart's substance that will preclude complete and perfect action of its muscle, especially at such times as increased calls are made upon it. Changes of this kind may be generalized or localized and are due to defect of blood supply, a defect which may be toxic in its character or ischæmic or both. The changes are commonly grouped under the heading myocarditis. The acute febrile diseases and wasting diseases afford examples of the conditions necessary to produce a general weakening of heart muscle. In advanced fatty degeneration also we find a similar result. The following case is an example of the symptoms which may indicate such a generalized weakening.

Case IV.—This patient has been ill for a considerable length of time, with cancer.

Male, age about 70 years, first attack began with a peculiar convulsive seizure followed by nausea and vomiting, intense pain in the epigastrium and finally in præcordium. Great anxiety was present; pallor and sweating; subsequent attacks painless; nausea less marked; chest oppression and anxiety marked; pulse rapid and fairly strong; arterio-sclerosis not excessive for age so far as can be ascertained by examination.

Anginous attacks as a result of these widespread heart changes are comparatively rare, however, and it is to myocardial changes resulting from local anæmia that we have to look for an explanation in the great majority of instances in which what we have classified as true angina occurs.

To quote Lauder Brunton again "The essential lesion in angina pectoris is weakening of the heart and, more especially, such irregular weakening as may be produced by atheroma of the coronary arteries."

The myocardial change most frequently found in connection with angina pectoris is chronic interstitial myocarditis, patchy or more widespread and associated with it the vascular lesions upon which it is so frequently dependent. Chronic interstitial myocarditis is in nearly all forms a localized change; it is much more common on the left side of the heart than the right and there in the left ventricle.

The regions of the left apex and the lower part of the interventricular septum are its commonest seats. The right ventricle is rarely affected.

Without going into the minutiæ of the anatomy suffice it to say that the morbid alteration of the tissue is a sclerotic one, fibroid in character and as a result of which muscle tissue is definitely replaced thus leaving non-contractile weakened areas. A gross evidence of its weakening effect is not infrequently seen in the shape of localized bulging—heart aneurysm. In a consideration of the immediate causes of fibrous myocarditis the condition of the coronary arteries has by far the most important place.

It is true that by direct extension from endocarditis and pericarditis fibrosis of the myocardium may be brought about, but cases of this kind resulting in angina are relatively few and, moreover, such extensions cannot occur without involving to a greater or less extent the integrity of the coronary vascular system.

The coronary arteries are two in number—right and left—and these are respectively the main sources of blood supply to the corresponding sides of the heart.

I would like to ask you to recall for a moment the division and distribution of the one, the left, which is of vital importance in relation to myocardial change and angina.

The left coronary comes off from the posterior sinus of Valsalva and passes behind the pulmonary artery to meet the right coronary running in the auriculo-ventricular groove. It gives off a large branch anteriorly which passes downwards in the anterior ventricular groove, and from this again a branch is given to the anterior wall of the left ventricle. Smaller branches run into the septum. The branch to the anterior wall of the left ventricle is that most often affected by sclerosis, by embolism or thrombosis and therefore most closely related to fibrous myocarditis and angina pectoris. So distinctively is this artery connected with grave heart lesions tending to fatal outcome that Osler has called it the artery of Sudden Death.

Morgagni first described the changes of chronic myocarditis and he regarded them as being degenerative. Edward Jenner has the credit of

first connecting the symptoms of angina pectoris with coronary sclerosis.

He did not however observe the accompanying myocardial changes. Gairdner noticed the association of vascular and muscular changes but did not connect them causally.

Weigert demonstrated the causal relationship in his paper on Tissue Coagulation.

Much more work has been done along these lines, into the historical aspect of which we need not go.

The anatomical changes found in the coronary arteries are those resulting from periarteritis, mesarteritis and endarteritis imposed upon which we find a fatty degeneration—true atheroma—followed by calcareous deposit.

A so-called primary calcareous deposit may occur, the result, no doubt, of molecular changes within the cells affected. All of these are ordinarily spoken of as constituting arterio-sclerosis or atheroma. The calibre of the coronary arteries being diminished by the changes described, an explanation of the consequent myocardial alterations is not far to seek.

The ability to nourish itself of any organ or tissue must vary with the size of the vessels conveying blood to it. The coronary vessels are in health large relatively to the size of the heart and, of necessity so, since the limits of variation of calls for nutrition must be wide on account of the character of the work done by it. Any diminution in calibre of the coronaries must be followed by lessened nourishment to the heart muscle, *i.e.* by atrophy and the demands upon the heart being often large and not easily regulated, the result will be more marked.

The tendency to the replacement of slowly dying tissue (atrophic tissue) which is relatively complex and highly organized by the more lowly organized fibrous elements is well known, and is found operating in the heart as well as elsewhere.

Apart from the results of the gradual occlusion of the coronary vessels by aterio-sclerosis, the fact that embolism or thrombosis may happen must not be forgotten. Either of these may lead to sudden death or chronic myocardial change according to the size and position of the aterial branch plugged.

An embolus will come from the heart or valves; a thrombus will be secondary to changes in the coronary walls.

The growing tendency with advancing years, especially under modern conditions, to the development of more or less widespread arterio-sclerosis is well known. The conditions which give rise to this are the same as also tend to changes in the coronary vessels and the

signs of it are not wanting in most anginous patients. It need not be wondered at then if some aortic valvular trouble, as indicated by signs of incompetency, is sometimes found associated with angina pectoris and such is the case.

The valvular lesions resulting from acute conditions, rheumatism for instance, may also be found related to angina but much more rarely than those that are degenerative. Mitral lesions and lesions of the right side of the heart are but very rarely seen to be accompanied with angina. Probably it will be correct to say generally of *endocardial lesions* that whilst the degenerative forms may be found in individuals who are subjects of anginous attacks, they can have little if any relation to the attacks. They are but further illustrations of the tendency to the kind of changes which go to produce angina. Changes in the aorta are also, of course, common. These may be of acute origin, acute aortitis, or, much more frequently, degenerative and of all degrees from simple, patchy, atheroma to aneurysm. In so far as sclerotic changes in the aorta may affect the openings of the coronaries, in fact we might say are prone to do so, and by thickening the intima more or less contract them, they are of direct importance in connection with angina. In a certain proportion of cases of pericarditis with adhesion angina has developed, undoubtedly from extension of inflammation to the myocardium with involvement of the coronaries in some part of their course. Cases of angina terminating fatally have been reported in which the post mortem examination results have been negative. Of these Osler says, "Nothing is easier than to overlook myocardial changes, particularly in the older methods of examination, and a heart may present extensive fibroid disease with obliteration of arteries which to the untrained eye looks healthy, or may not show any coarse lesions of the aorta or of the main branches of the coronary vessels".

Causation of Lesions.

In the production of the morbid anatomy of angina pectoris there are three great factors at work, viz.—Heredity, Strain, and last and most important, Intoxications.

The influence of heredity as giving a certain quality of what Osler calls "vital rubber" to the blood vascular system is beyond dispute. The tendency in certain families to arterial sclerosis is too outstanding to require more than statement, and not infrequently a series of cases of angina will be found under these conditions. I myself know of a family in our midst of which the head died of angina pectoris not long ago, leaving a sister and a son both of whom are suffering from it. In all of

them arterio-sclerosis has been marked. That these changes in several members of a family may be due to inherent tendency and not to coincidence or accidents of environment is made clear by history and by the fact of their appearance in early life in persons of both sexes.

Arterio-sclerosis is prone to develop in those who lead the "strenuous life," whether the activity be mental or bodily. Especially is it liable to appear in the mentally over-active, and worry is the form of activity which is most effective. How strain acts as causative is not very clear, but in all probability it does so as tending to the induction of various auto-intoxications, inducing or promoting toxic chemical changes within, which, in their turn, make possible the operation of toxic matters from without.

To intoxications of various kinds we will possibly also some day trace those peculiar family bodily characteristics which tend to shorten life and which we speak of as hereditary.

The great part which intoxication must play in arterio-sclerosis is apparent when we consider that disease in general is due to toxic matters of various kinds, from which every organized being suffers as a result of its struggle for existence with those around it

To sum up in a word, the all-important lesion in the production of the symptoms is one which affects the heart muscle, usually chronic myocarditis, and this is due to limitation of the quantity and likely quality of the blood supplied it.

THE DIAGNOSIS AND TREATMENT OF TEBERCULOUS * PERITONITIS.

BY A. GROVES, M.D.
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THE diagnosis of tubercular peritonitis in its early stage is confessedly difficult in those cases in which there is no history of tuberculosis. If a patient has been failing in health, has loss of appetite, nausea, indigestion and pain in the abdomen, with or without tenderness, the possibility of peritoneal tuberculosis should be considered. If there are tuberculous lesions in other parts or a tuberculous family history the diagnosis is comparatively easy, but if the history and previous health have been good the problem is not so simple. There may be a swollen abdomen, dull or tympanitic and hardened masses of thickened omentum simulating cancer may be made out. There may be fluid which is often

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encapsuled and in some of these cases it seems impossible to differentiate them by physical examination alone from ovarian cysts. Between ovarian tumour and tuberculous cyst the diagnosis can be made by noticing that the former had been slow of growth, and that usually a definite lump was noticed by the patient at a comparatively remote date. In ovarian tumours there are no febrile symptoms as a rule, and in fact, in all cases the fluctuations of temperature are the most important guides in deciding whether the case may be one of tuberculosis or not. Given a case otherwise doubtful, if there is elevation of temperature and especially if at times it becomes subnormal, the case may be set down as tubercular. In the same way the difficulty as to doubtful tumours may be cleared up, for in the non-tuberculous, pyrexia is wanting. Ascites arising from other causes can be distinguished by the mode of onset, and by careful examination for other dropsy producing lesions. Typhoid fever is sometimes difficult to distinguish at first sight, but a little time, with careful watching of the case will suffice to settle the matter. Indeed, the temperature chart alone is diagnostic, and when to this is added the history of the case, and the various signs and symptoms, a mistake can hardly be made. If the physician keeps before him in all cases of abdominal disease, the possibility of its being tubercular he will rarely be in error. Tuberculosis is so widespread and insidious that one would almost be justified in diagnosing a case of abdominal disease as tubercular, unless he could prove it was something else. Regarding treatment, it is necessary to determine at the beginning, whether or not the tuberculous process has arisen by infection from some neighbouring organ or viscera; if such direct infection can be demonstrated, the primary focus should, if possible, be removed as a preliminary measure. In the general management of any case, the rules applicable to the treatment of tuberculosis in other parts should be followed, with such modifications and additions as may be required or indicated by circumstances arising from the particular region involved. Every effort should be made to improve the nutrition by diet rich in fat producing elements, and varied to suit the idiosyncrasies of the patient. Medicines except in so far as they improve the general tone of the system have no value. Iron, arsenic, hypophosphites and the bitter tonics will in suitable cases be of service. Abundance of fresh air and sunlight are essential, I had almost said especially sunlight, for the perfection of sunlight can only be obtained in the open air. To my mind it is advisable to expose the abdominal walls to the direct action of the sun's rays daily for hours at a time. The rays will penetrate to and through the peritoneum, and will lessen, if they do not destroy, the

activity of the bacilli. The fact of the sun's rays penetrating may be questioned, but it is a matter very easy to demonstrate. If the palm of the hand is pressed against one end of a metallic tube directed toward the sun, on looking into the tube a moderately bright reddish glare is visible. That sunlight has a very considerable effect in stimulating vital process in parts situated comparatively far from the surface is unquestionable. I have seen where in cases of delayed union of bones, improvement began and went on to perfect union shortly after the limb began to be exposed daily to direct action of the sun's rays. In a case of tuberculous abscess of the arm where thorough opening, curetting and drainage with local applications and treatment all failed, the exposure of the arm to the sun for three or four hours daily produced so great a change that at the end of a week the patient said "it takes the sun to heal it." If the days are hot the exposure should not at first be too long, otherwise a severe sunburn will be the result, but by gradually lengthening the time little or no soreness will be produced. The direct application of the Roentgen ray is worthy of faithful trial, seeing that lupus can be cured by it, and on account of the thinness of the abdominal wall it will have a powerful effect on germs in the peritoneum. So far I have tried it in but one case, and it is dangerous to deduce a rule from a single instance, but so far as I was able to judge, the effect of the ray was decidedly beneficial. In the same way Finsen's ultra violet rays by reason of their inhibitory powers over germ life ought to be serviceable, but I have had no experience in their action in these cases, and therefore can give no opinion of any practical value as to their effects. If all other measures fail the question of operation comes to be considered, and it is one of the conditions in which early operation is rarely to be advised, for many cases recover without operation, others die in spite of operation. Where other organs, as for instance the lungs, are at the same time seriously involved an operation is not usually advisable, except to give temporary relief when there is much effusion, nor have I found much benefit follow opening the abdominal cavity and washing it out in the case of acute peritoneal tuberculosis, even when there was a large collection of fluid. In my opinion, laparotomy is followed by the best results in chronic cases when there is a quantity of fluid, but the diseased process is quiescent. In such cases, I have known cure follow simple tapping, so that it would seem where cure followed or appeared to follow a laparotomy, it might be the disease had run its course or was tending to recovery, and the laparotomy only removed the products of disease, a most necessary thing, indeed. I might be permitted to refer to a few cases to illustrate those views.

Away back in 1874 I saw a case with a medical friend where for some months there had been a difference of opinion as to whether the patient was pregnant or had an ovarian tumour, but finally the time limit excluded pregnancy, and an operation for removal of ovarian cyst was undertaken. When the abdomen was opened the fluid ran out, there was no ovarian disease, but simply encysted fluid with the walls studded with tubercles. The patient promptly recovered. There had been no acute symptoms for a long time, and the results following the operation were apparently analogous to those seen after tapping the chest in cases of hydrothorax; in fact, the same rule will apply, for I find if a chest is tapped during an acute attack of pleuritis while the temperature is high it will generally refill, but if the acute stage is over it will not do so, although there may be mild pyrexia at the time of operation. In its essence the tapping is not curative of the disease, it only gets rid of products nature was unable to remove, and by so doing allows the vital forces to complete a cure already far advanced. Again, I might refer to the case of a young lady of a tuberculous family history who presented herself with her abdomen distended with fluid. In this case, simple tapping of the abdomen was done, and almost two gallons of fluid removed. It did not return, and her recovery was perfect. In neither of these cases could it be fairly claimed that the operation cured the disease, for its activity had already ceased. The disease was over, its products only remained, the operations at one stroke got rid of those products which nature unaided might not, and in all probability would not have been able to do. Even if it were possible that nature might in the end remove the fluid, I think it would be bad practice to leave it, for a tuberculous patient should have no burden to bear which it is possible to remove.

Lastly, I will quote a case of laparotomy in the acute stage of tubercular peritonitis. A young man who had never before been sick and whose family history was without tuberculous taint so far as was known consulted me regarding pain and tenderness of the abdomen. His temperature was 103 the first evening I saw him and his condition steadily grew worse; at the end of a month there was a considerable collection of fluid in the abdomen and a laporotomy was done, about a gallon of fluid being removed, his temperature at the time of operation being over 102. No benefit followed and in a week the cavity was again opened and a still larger quantity of fluid removed. Thorough washing out was done and drainage left in for a time but the high temperature persisted and the case went on to a fatal termination at the end of two months from the first operation. My experience in these

and many other cases which I have seen in more than thirty years of practical work goes to show that it is only where a previous arrest of the disease has been accomplished that recovery follows after operation and that where the disease is acute no improvement results. It is not claimed that removing the fluid from the chest in pleuritis is curative except in so far as it relieves the system from the presence of a body which it is difficult and often impossible for nature to do unaided. I see no reason to believe the problem is different in the abdominal cavity. I have not known an instance where operation helped in the sense of curing a case of acute tuberculous peritonitis nor one in which there was chronic effusion where it failed. It does not appear to me that a short exposure of the diseased surface to the air and the flushing of it with water can abort acute tuberculosis, but at the same time I am persuaded collections of fluid ought to be removed for by their removal the burden is lightened for the vital forces and to that extent the operation is curative. In many cases indeed without an operation the patient would not get well because the systemic processes were unable without assistance to cope with the products of disease. The fluid having been removed the same persistent attention to the patient's general health must be kept up, every agency having a curative tendency must be employed, for after an apparent cure has been effected the disease may be only dormant, ready to break out again with undiminished force.

THE TREATMENT OF PNEUMONIA.*

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IT may be well to combine the suggestions of the preceding lecture into an outline plan of treatment for pneumonia, though it may involve some repetition.

Every case in which a rigor occurs and the temperature rises should be sent to bed at once in a well-ventilated room without draughts, the warmth of the room being maintained at 60° F. If pneumonia is apparently developing, a trained nurse should be obtained from the first. The temperature, pulse-rate, and respiration-rate should be observed and recorded on a chart and this should be repeated every four hours. If the patient, when first seen, is cold and at all collapsed, it is desireable to give him a "hot pack," by swathing him in a sheet wrung out of hot water of temperature of 110° F. (the head being kept cool), and covering him with blankets. Some hot brandy and water may be given to him

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* From the British Medical Journal of 5 December, 1903.

to drink. He should be kept in the pack for about twenty minutes, then the sheet should be removed, the patient dried quickly, and placed in a warmed bed.

When he has thus been rendered warm, let the practitioner make a careful examination of (1) the tongue, mouth, throat, glands, (2) the left heart, (3) the right heart, (4) anterior pulmonary regions, (5) posterior and lateral pulmonary regions, (6) liver, spleen, abdomen. If pneumonia is developing, it is usually possible, by a very careful percussion, to detect some slight indication of the coming trouble, and it is extremely important to make sure of the diagnosis as soon as possible, for before the expiration of twenty-four hours from the onset there is a chance of arresting the disease by vigorous treatment. There will probably be pain on one side of the chest, with somewhat limited expansion of that side in inspiration, and some slight local impairment of resonance at base or apex. Over this area there may be a very little subcrepitant *râle*, but the chief auscultatory indications will be local feebleness of breath sounds. This comparative absence of breathing in the earliest stage of pneumonia is mentioned by Professor Osler, but is not generally recognized: it is certainly a fact.

Put two hot-water bottles to the patient's feet, and, as soon as possible (every hour is of importance), fill two icebags with small fragments of ice, and apply them as already directed over the suspected part of the lung, one in front and one behind. If the mouth and fauces are foul, a sanitas mouth wash should be employed, and the throat sprayed with 1 in 2,000 perchloride of mercury lotion. This should be repeated every three hours for the first two days. It is probably desirable in every case, for the infection of the air passages doubtless often starts from the mouth, and the spraying can be easily effected during the early days of the attack, when there is little dyspnoea. The diet should consist of milk, or milk and barley water, given every two hours, and water if desired.

The patient should be seen again the same evening and again carefully examined. Any other area of dullness that can be detected should be covered by a third icebag. If pain in the side has not been already relieved by the ice, a subcutaneous injection of $\frac{1}{6}$ gr. to $\frac{1}{4}$ gr. of morphine should be administered, and a night draught of bromide and chloralamide should be ready if the patient does not sleep. This must on no account be overlooked.

If the attempt at arrest is successful, on the second day the dullness will be found not to have increased—possibly it may already have diminished; the air will enter the suspected area more freely, the temperature

will be lower, and the pulse-rate less frequent. It will in this case be necessary simply to persevere steadily with the treatment, but the greatest care must be employed to detect any fresh inflammatory foci, and to attack them immediately. Carelessness in percussion will lose the possible chance of saving the patient from a dangerous illness.

As proof of the assertion that if a case of pneumonia comes under observation within twenty-four hours after the initial rigor it is sometimes possible to arrest it by vigorous treatment, I give the two following cases:

CASE I.—W. B., 18, carman, was seized on the evening of October 31st, 1895, sixteen hours before his admission into St. Mary's Hospital, with a rigor which lasted an hour. Next morning he had fever and pain in the right side. On admission his skin was hot and dry, and there was some labial herpes. Temperature 103.6°, pulse 120, respirations 40. When I first saw him on the evening of November 1st, twenty-four hours after the rigor, I found dullness at the base of the right lung in front below the fourth rib, extending into the lower axilla, with some tenderness. The breath sounds were feeble over the dull area. No bronchial breathing, but a little crepitation at the end of inspiration. Behind, at the right base, breathing weak, and some impairment of resonance. Three icebags were at once applied.

November 2nd. Temperature, 101.8°; pulse, 100; respirations, 34. Feels better. Dullness decidedly less extensive.

November 3rd. Temperature, 100°, rising to 101.8°, falling to 99°; pulse, 100; respirations, 30. Dullness still diminishing. Says he is "a lot better."

November 4th. Temperature, 98; pulse, 72; respirations, 26. Now only a small dull area in lower axilla. Ice removed (after sixty hours.)

November 5th. Temperature rose to 99.8°, but fell to 98°.

November 6th. Temperature rose to 100.2°, but fell to 98°.

November 7th. Temperature, normal; pulse, 64; respirations, 20. Very slight impairment of resonance could now be detected.

CASE II.—E. N., 14, admitted May 22nd, 1896, twenty-four hours after immersion in a canal and twelve hours after a rigor. He had a headache and dyspnoea. On admission dullness was found in the right axillary region, and an icebag at once applied. Temperature, 103°; pulse, 120; respirations, 40.

May 23rd (10 a.m.). Both cheeks very flushed. Obvious dyspnoea. Temperature, 103°; pulse, 120; respirations, 40. Dull in the right lower axilla, not behind scapular line nor to inner side of nipple. Just below angle of right scapula there was distinct fine crepitation, with inspiration

only; this was so typical that I made all my clinical clerks listen to it. Breath sounds diminished over the dull area; no bronchial breathing. Dullness and diminished breathing in right suprascapular fossa also. Some pain on left side of abdomen on taking a deep breath, but no rub could be heard and there was no dullness. Heart normal. Three more icebags were ordered, making four in all; two to the right base, a third over the right apex behind, and the fourth over the left axilla. After one hour the temperature fell to 100°, and the ice was removed. It then rose to 102°, but at once fell again.

May 24th (forty-eight hours after the rigor). Temperature, normal; pulse, 74; respirations, 34. He had slept well, was not now flushed, and the right axilla was less dull. The temperature remained subnormal for thirty-six hours. There was a short rise to 100° on the 25th, and to 99.5° on the 26th. After this it was normal, and the boy was quite well, and the right axillary region was of normal resonance.

It will be observed that in each of these cases there was no crisis, but an immediate and rapid subsidence of temperature, physical signs, and symptoms. In such cases as these it is reasonable to claim that the disease has been arrested. But it is not always possible to arrest a pneumonia even when it is treated very early, and after twenty-four hours there is little hope of success. This is not surprising when we remember how rapidly micro-organisms increase in number under favourable circumstances. Washbourn and Eyre found, on cultivating the pneumococcus in nutrient broth, making plate cultivations from the broth culture and counting the living cocci present at different periods, that 140 colonies increased in three hours to 6,149, and in six hours more to 13,680; twelve hours later they were "innumerable."

As the normal temperature for the growth of the human body is only 1° F. below the optimum temperature for the growth of the pneumococcus, it is clear that if an attempt to arrest the development of a pneumonia is to have any chance of success, it must be made very early and very vigorously.

But it is always possible to influence the course of a pneumonia, to diminish its intensity, and often to shorten its duration. This of course is difficult to prove, because of the uncertainty of the time of occurrence of the crisis in the disease when untreated. But there is nothing really improbable in the assertion that there is reason to believe that the ice treatment sometimes brings about an earlier crisis. For however the crisis may be caused, whether by the manufacture of an antitoxin or by a failure of further growth of the pneumococcus, it seems clear that any treatment which can to any extent inhibit the

growth of the microbe and thus check the amount of toxin which it produces, will to that extent facilitate the earlier termination of the struggle between the attack and the defending forces, in other words, it will hasten the crisis.

If the attempt to arrest the disease is unsuccessful, on the second day the area of dullness will be larger, and over it may be heard inspiratory crepitation, or sharp *rales* of double rythm in children, or some prolonged expiration, or distinctly bronchial breathing. A third or fourth ice bag should now be applied, the sites for their application being outlined in blue.

It is desirable at this period to administer two or three grains of calomel, followed after three hours by a seidlitz powder. When a sufficient evacuation has been obtained the purgative should not be repeated, for in the later days of a pneumonia there is a tendency to diarrhoea.

On the second evening the hypnotic must be again given if necessary, and morphine if pain is present, for the patient must have sleep. It may, perhaps, be desirable to remove one or two of the icebags during the night, leaving two only in position. It might be thought that the necessity for the disturbance would be fatal to sleep, but the relief of pain and dyspnœa is so great that the patient easily falls asleep again, provided that his right heart is not over-full. In the case of young children the temperature should now be taken every two hours (hourly for babies), and it can be done without disturbing them. If any icebags have been removed at night, they should be replaced early next morning.

On the third morning the physical signs in the lungs must again be most carefully determined, and directions given for the alterations of position of the icebags necessitated by the changes found. But now special attention must be given to the right heart. If the dullness of the right auricle is found to extend two finger-breadths in the fourth right space, and there is distinct dyspnœa and some slight lividity of lips, or cheeks, or finger tips, leeches should be applied over the lower ribs on the right side below the nipple level. One should be used for a baby under six months, two for a child under two years, four for a child of 10 years, six for an adult, eight for a robust man. If not used at once the leeches should be held in readiness, for they may possibly be required in the evening if the patient is to sleep. Some tins of malted milk, and one or two cylinders of compressed oxygen should be procured.

On the third evening it will in most cases, unless the ice has already caused a marked improvement in the physical signs, be advisable to

apply leeches—if they have not been already used—an hour or two before the time for sleep. The relief thus given to the right heart will often induce sleep without any hynoptic, but one must be given if needful. Even morphine may be used safely under these circumstances

On the fourth morning, if the leeches have been applied, the patient will feel more comfortable, though the physical signs may have increased in extent. The same minute care in determining the physical signs in both lungs must be practiced. Watch carefully for fresh areas of dullness, especially if there has been any fresh rise of temperature, and attack them at once.

The right auricle having now been relieved it will be desirable to give considerable quantities of water, both to satisfy the thirst, and to promote diuresis and the elimination of toxin. During the twenty-four hours following the use of the leeches, 3 or 4 pints of water may be given, in quantities of 8 to 10 oz. every three hours; for a child 4 to 6 oz.

If the patient has not come under treatment until the fourth day of a severe attack, he will probably be in considerable distress. Dyspnoea and discomfort will be marked, cyanosis distinct, and the dullness of the right auricle may measure from two to two and a-half finger-breadths in the fourth space, one or one and a-half in the third, and half a finger-breadth or more in the second. This should be ascertained at once, before any attempt is made to discover the amount of disease in the lungs. The call for bleeding is urgent and imperative. A larger number of leeches must now be used than would have sufficed on the previous day. Two must be employed for a baby, three for a young child, four to six for an older child, eight to twelve for an adult. A venesection is often preferable: 4 oz. for a young adult, 8 oz. for a strong man.

An hour after the bleeding both lungs should be carefully examined and the outlines of the dull areas marked on the chest. Two icebags must be applied at once to the worst inflammatory foci, an hour or two later a third, and before long a fourth. We are now in the thick of the fight, and it is necessary to call up the reserves and have all our forces in readiness for the struggle of the next three or four days. The subcutaneous injection of strychnine should be begun and maintained systematically in increasing amount or frequency. Now is the time also to begin the administration of oxygen; this, too, should be regularly continued throughout. Milk and also water may be given in considerable quantities after the venesection. At night sleep will probably come naturally, the right heart having been relieved and the pulmonary congestion diminished by the ice, but if not a hypnotic must be given, and even morphine if necessary; the patient must have sleep.

On the fifth day, if the patient has been vigorously treated with leeches and ice, there is often a marked improvement in the physical signs, and much less tendency to extension. But a severe case may be not yet controlled. It will now be desirable to limit the amount of fluid given to the patient, so as to lessen the strain on the right heart. The diet for the next two or three days should be simply malted milk powder dissolved in milk, a tablespoonful in two ounces every two hours for an adult, two teaspoonfuls in one ounce for a child. The icebags must be continuously applied, and their position altered as may be necessary, special care being taken to discover and attack fresh or spreading areas of inflammation. If leeches have been used on the third day, it is desirable to examine the right heart again very carefully on the evening of the fifth day. The relief will almost always last for forty-eight hours, but by the fifth evening some more leeches may be required, In determining this point, especially when the left lung is mainly involved, it is very necessary to guard against being misled by overdistension of the right lung into an underestimate of the size of the right auricle. In case of doubt, let the decision be for the leeches. The amount of sleep which the patient has hitherto obtained is also of importance in deciding this question. If he has slept well, and the right auricle does not measure more than two finger-breadths, the leeches may be postponed. But if sleep has been defective, it will be wiser to apply them, and afterwards to give a hypnotic. For sleep is of great importance for the maintaining of vigour for the days which may remain.

If the patient has reached the fifth or sixth day of his illness, and neither bloodletting nor ice has been employed, the symptoms are often very severe, the distress great, and the outlook gloomy. Probably he has been sleepless for several nights, and his strength is rapidly diminishing. The call for active treatment is urgent. The prognosis depends on three factors: the age and previous health of the patient, the intensity of the infection, and the action of the medical attendant. At such a time the responsibility of the latter is great indeed. Life is trembling in the balance. His action or his inaction may decide whether or not the patient shall be deprived of many years of life, and his wife and children suffer an irreparable loss.

The first necessity is a venesection. Eight ounces of blood should be taken at once, twice as much or more if the lung be full of *râles*. If permission for venesection cannot be obtained, place a dozen leeches over the liver and encourage the bleeding. Hypodermic injections of strychnine in 3-minim doses every four hours should follow immediately, and the systematic inhalation of oxygen for ten minutes or more

every hour. Two icebags should be at once applied, soon followed by a third, and before long by a fourth. It is very probable that after this treatment the patient will fall asleep. If so, he should be undisturbed for four hours. But after this nourishment must be given and the icebags refilled every two hours. Malted milk in milk with a little brandy should be given every hour when he awakes, and all medicine by the mouth avoided. After sleep has been obtained a small enema may be given if necessary. If diarrhoea is present the rectum should be washed out with warm saline solution, and 2 oz. of starch decoction with a few drops of tincture of opium inserted.

Some improvement—often much—will certainly follow this treatment unless the patient is already very far on the downward road, or his heart be previously dilated, his lungs emphysematous, his liver cirrhosed, or his kidneys granular. Many cases are no doubt hopeless from the first; but not very rarely an apparently hopeless case recovers; and, at all events, whatever can be done to give a chance of recovery ought to be done. Here let me put in a plea for earlier consultations. Too often a "second opinion" is sought for only when death is imminent. The surgeon is right in asking that he may be allowed to see a case of perforated gastric ulcer as soon as the diagnosis is made; if twenty-four hours are allowed to elapse, the patient's chance of recovery is small indeed. It is estimated by Mr. Mayo Robson that if operated on within twelve hours after the perforation the mortality is only 16.6 per cent.; if within twenty-four hours, it is 63.0 per cent.; if within thirty-six hours, it is 87.5 per cent.; and if delayed for forty-eight hours, the operation will only rarely succeed. So may the physician plead that in in pneumonia the final issue largely depends on the treatment, or want of treatment, of the first few days. In the case of an infant, or of an adult older than 30 years, the danger to life is great, and judicious treatment is required from the very first. This is not so obvious to the patient as when an operation is required, but it ought to be equally obvious to the practitioner. To delay the consultation in such a case to the fourth or fifth day is to imperil the patient's life.

Pneumonia in adults usually ends by a very rapid fall of temperature, with slowing pulse. This "crisis" often occurs in children also, even in cases which would be designated as "broncho-pneumonia," but in children the subsidence is apt to be more gradual, and to occupy several days. Pneumonia in children sometime lasts for three or even four weeks. It is necessary to keep a careful watch for the first indications of this quick diminution of temperature, especially in children. The icebags should be gradually removed as the temperature falls, and

the last should be taken off when the thermometer marks 100° F. There is a natural tendency to collapse at the time of the crisis which must be kept in mind. Icebags over the chest at this stage would probably be injurious, though in pericarditis, as I have already mentioned, they may sometimes be used with advantage, even when the temperature is subnormal. If, in spite of care, or for want of it, the reduction of temperature is so great as to cause some collapse, it is desirable to apply warmth over the heart and abdomen, also to the feet. and to give the patient some warm water with brandy, and a draught containing ether and ammonia. By these means it is usually easy to remove any tendency to collapse.

But the crisis is often preceded by a remission of temperature which lasts only a few hours. Hence, when the ice has been removed, the temperature should still be taken every hour. If it rises to 101° F. a single icebag should be again applied, if to 103° F. at least two. Much careful observation on the part of the nurse is required at this period. If the temperature shows a persistent tendency to keep above normal after the crisis has occurred, the existence of empyema should be suspected, and an exploring needle should be passed into the dullest area Occasionally it may be due to tuberculosis.

THE CONSUMPTION OF SPIRITS AND TOBACCO.

In 1902 the per capita consumption of alcoholic beverages was as follows:—Spirits, .796 gallons; beer, 5.012 gallons; wine, .090 gallons; tobacco, 2.404 pounds. In 1903 the per capita consumption was:—Spirits, .870 gallons; beer, 4.712 gallons; wine, .096 gallons; tobacco, 2.548 pounds. In 1902 the revenue per head was:—Spirits, $1,653; beer, $0.214; wine, $0.048; tobacco, $0.915. Last year the per capita revenue receipts were:—Spirits, $1.812; beer $0.205; wine, $0.051; tobacco, $0.992. The number of cigars taken for consumption in the last fiscal year was 151,780,516, as against 141,096,889 for the year previous. There were 22,677,302 pounds of tobacco taken for consumption, compared with 21,543,301 in the preceding year. In 1902 there were 27,623,767 gallons of malt liquor manufactured. For the last fiscal year the quantity manufactured was 25,755,154 gallons or a falling off of 1,868,617 gallons. In the fiscal year 1901-02 the quantity of spirits entered for consumption was 2,933-182 gallons of the value of $5,613,295. During the last fiscal year 3,207-748 gallons of the value of $6,158,275 were entered for consumption, being an increase of 274,566 gallons in quantity and $544,980 in value.

CURRENT MEDICAL LITERATURE.

MEDICINE.

Under the charge of A. J. MACKENZIE, B.A., M.B., Toronto.

LYSSOPHOBIA.

In the *Virginia Medical Semi-Monthly*, November, Kent describes a very peculiar case in which the patient developed the symptoms of lyssophobia. A morbid state produced by morbid dread of having contracted hydrophobia.

The first symptoms were those of fever, chill, with convulsions, supposed to be due to an injury, but in a few days the diagnosis was changed to that of hydrophobia. The patient had been bitten by a dog some two or three years before, and at this time the scar was inflamed and red. Abnormal acuteness of hearing and smell developed, the patient could bark like a dog, catch and shake things in the teeth like a dog, and became very much excited if a dog came near the house, and could not be quieted until it was driven away.

He gradually improved, the paroxysms becoming less common, but they returned some weeks later and lasted four or five days. No further history is given after this attack.

FILARIASIS.

In a recent issue of the *British Medical Journal*, Manson writes with regard to Dr. Primrose's contribution on this subject, and differs from him in the interpretation of certain phenomena. It will be remembered, by those familiar with Dr. Primrose's interesting paper, that in the case described the embryonic filaria disappeared from the blood of the patient after the operation for the removal of the scrotum, in which two or three adult parasites were found. The authority on tropical diseases holds that the condition could not be due to such a small number of adults, that there were probably many more, and that the real cause of their disappearance was a severe attack of lymphangitis, which is described as succeeding the operation. He quotes a number of cases in illustration.

THE BLOOD OF FISHES AND BIRDS.

In the December number of *Johns Hopkins' Hospital Bulletin*, there is an article by Earnest K. Cullen, M. D., Tor., 1902, descriptive of work done by the writer on the morphological peculiarities of the blood in certain fishes and birds. Much of this is unexplored ground and the findings therefore possess a more than ordinary interest to the biologist,

In the blood of the dogfish and skate an extensive haemocytolysis was found, which the writer believes is a normal process of dissolution and this seems to support the theory that the so-called granular degeneration of the red-cells in man is referable to changes in the stroma and that cytolysis occurs under normal conditions.

Twenty-nine species or birds were examined; at least four different forms of leucocytes were observed corresponding in general properties to the small mononuclear leucocyte, the large neonuclear leucocyte, the eosinoplatic leucocyte and the mast-cells in man. The proportion of these showed considerable variation among themselves and from the human species.

During the investigations, it is interesting to note that filaria were found in the blood of a blackbird, a grebe and a porcupine.

SURGERY.

Under the Charge of H. A. Beatty, M.B., M.R.C.S., Eng.
Chief Surgeon Canadian Pacific Railway, Ontario Division, Surgeon Toronto Western Hospital.

FIXATION OF THE KIDNEY,

In the *Detroit Medical Journal*, December, Benjamin R. Schenck discusses nephroptosis and the results of its treatment by fixation. In the female the shallow paravertebral niche predisposes to abnormal mobility of the kidney. Of the forces tending to dislodge the organ, the most potent is repeated mild trauma. such as the lifting of moderately heavy weights, the stretching of the muscles of the back by repeatedly reaching forward, and the increase of intra-abdominal muscles, especially following repeated pregnancies, is of great importance in causing enteroptosis and concurrent nephroptosis.

In doubtful cases where the woman's symptons may or may not be referable to a prolapsed kidney, Kelly's test is recommended. A renal catheter is inserted into the pelvis of the kidney, and by means of an ear syringe attached to the catheter, the pelvis is gradually distended with sterile water or boric solution. When about 10 ccm. have been in-

jected, pain in the side is complained of, and the patient will either instantly recognize this pain as being that from which she suffers, or will say that the latter is different in character or in a different location. Thus we can definitely ascertain whether the kidney is the offending organ or not.

As regards symptomatology, cases of movable kidney may be conveniently divided into three groups. 1. Those giving symptoms referable to the kidney itself; 2. Those presenting gastric symptons; and, 3. Those in which nervous manifestations are prominent.

The writer describes the steps of Kelly's operation, in which the posterior surface of the kidney is sutured by two or three silk sutures to the quadratus lumborum muscle, and emphasizes the following points in connection with the operation: 1. The kidney must be detached from the intestine should the latter be adherent. 2. The kidney must not be twisted by placing the sutures in the borders or the anterior surface. 3. One of the sutures must be as near the upper pole as possible, to guard against the rotation of the kidney. 4. The first lumbar nerve, which usually runs along the margin of the quadratus lumborum muscle, must be carefully sought for and retracted on a blunt hook, and thus excluded from the sutures. 5. The sutures should be inserted according to the method advocated by Broedel, a suture passed thus, forming two bridges on the renal capsule, from one to one and one-half inches in length, has been found to sustain a weight two and one-half times greater than one passed in the ordinary way. 6. No mischief is done by the silk sutures provided the asepsis is perfect.

Schenck then gives the results of this method of fixation from reports obtained, at least one year after operation, in a series of forty-eight cases. Dividing all the cases into the above groups, he reaches the following conclusions: 1. Operation is clearly indicated in the cases which, by careful differentiation, belong to the first group. 2. When a general visceroptosis is present, operation is of a doubtful value. 3. A partial recurrence may follow a subsequent pregnancy. 4. Cases belonging to the second and third groups are much benefited by the operation, but the results are not so good as in the cases of the first group.

The advantages of Kelly's method of operation are: 1. It is the simplest possible suture method. 2. The incision is short, and the kidney is reached with minimum traumatism. 2. The kidney is not injured. 4. Painful scar tissue does not follow. 5. It has no mortality, other than that of the anaesthetic. 6. The results in properly selected cases are better than those of the more extensive and more dangerous operations.

FRACTURES OF THE SKULL.

In the *Southern Practitioner*, January, Paul E. Ere gives the report of several cases of extensive fracture of the vault of the cranium and comes to the following conclusions as to treatment. 1. In all cases of injury to the vault of the cranium, where fracture is suspected, or where doubt exists, it is advisable even when there is no extensive wound to cut down and thoroughly investigate the seat of injury. Where there is a small external wound this should be enlarged and careful inspection made. 2. If a fracture is present and there are indications for the operation of trephining, this should be done as early as possible. 3. As a number of these cases prove fatal from sepsis, there should be a thorough irrigation of all the injured tissues with normal saline solution at a temperature of one hundred and twenty degrees. 4. Hæmorrhage should be arrested either by warm normal saline solution or by a light gauze pack. 5. After such operations, there should always be drainage by catgut, gauze, or tube, and should no pus present itself at the end of the third day, the dainage can be dispensed with.

In the treatment of fractures at the base of the skull, Ere urges that where there is hæmorrhage from the nose or ear these cavities should be irrigated for ten or twenty minutes with normal saline solution at a temperature of one hundred and fifteen or one hundred and twenty degrees, and then lightly packed with gauze.

GYNÆCOLOGY.

Under the charge of S. M. Hay, M.D., C.M.,
Gynæcologist, Toronto Western Hospital; Consulting Surgeon, Toronto Orthopedic Hospital.

CONSERVATIVE SURGERY OF THE FEMALE PELVIC ORGANS

Richard C. Norris, A. M., M. D., of Philadelphia, writes in the *American Journal of Obstetrics and Diseases of Women and Children*, in the October number, on the subject of "Conservative Surgery of the Female Pelvic Organs." Many gynæcologists have been criticised for recklessly removing pelvic organs which show no marked evidences of disease. And it is said by profession and laity that some of our best men are "too ready to remove ovaries." It is significant that at the last International Congress, held in Madrid, in April, this subject was thoroughly discussed by the leading operators of the world. The value of the power of procreation to the individual, the family, the state, and the perpetuation of domestic happiness in individual instances, are sociological problems apparent to the thoughtful physician.

Another important reason for preserving an ovary or a portion of an ovary, is the retention of the menstrual function and the maintainance of the nervous equilibrium. Where all ovarian tissue has been removed we often find our patient irritable, nervous, morbid, hysterical and neurasthenic.

In suppurative diseases of the appendages conservatism is not only dangerous to the patient, but there is a probable necessity for a second operation. Even here some surgeons are having considerable success.

An ovary bound in adhesions, but otherwise healthy, may be freed and allowed to continue its function. A prolapsed ovary, causing distressing symptoms, may be stitched up, at a proper level, to the posterior surface of the broad ligament.

In ectopic gestation it is considered safer to remove the diseased parts.

Many uterine fibroids may be removed by myomectomy rather than by hysterectomy, and in case of hysterectomy, normal ovaries should be preserved.

The most important field of conservative surgery upon the pelvic organs includes the chronic cases in which the operator finds structural changes in the tubes and ovaries, producing unilateral or bilateral lesions of greater or less extent : Hydro- and hemato-salpinx, ovarian hematosalpinx, ovarian hematomata, cysts of the ovary, and visceral adhesions. Frequently one side is irreparably diseased and must be removed, while the other offers possible success from conservative work. Operations may consist of puncture and drainage of a small hydro-salpinx, dilatation of an occluded tube, excision of small cysts of the ovary and closing the opening with fine catgut, etc., etc.

Dr. Norris says : " Associated with chronic pelvic inflammations structural changes in the appendix are so frequently found that conservative surgery is now studying the advisability of removing the appendix in all cases where the abdomen is opened for any cause. It has been my custom for several years to remove the appendix when operating for pelvic disease, whenever that organ was macroscopically diseased, but during the past year I have gone farther and have removed the appendix in all cases except when the patient's general condition, or the severity of the operation in hand, made the additional time required for its removal a distinct danger to the patient. There has been no mortality attributable to the appendectomy, and as a conservative operation it is, in my judgment, justifiable and indicated.

" From a study of my records, I have drawn some conclusions which will help me to formulate rules to guide me in this work in the future.

In the total series of cases the results have been somewhat discouraging. Where the trouble had been unilateral and not extensive, and brilliant results anticipated, sometimes the disease progressed rapidly, making a secondary operation necessary. On the other hand, when the patient's expressed desire had made me carry conservative efforts to an extreme, the most fortunate results followed. This means that no surgeon can with confidence predict the outcome in individual cases, and that should be made clear to the patient. Again, future fertility depends more upon the condition of the tube than upon that of the ovary. Relief of pain rarely follows plastic work on the ovary. A woman forty or more years of age, especially if she has children, should rarely be subjected to the risk of a second operation."

Young unmarried girls should have an attempt made to preserve the menstrual function and procreative power. Double oöphorectomy in neurasthenic or hysterical women, often leaves them more wretched than before.

THE TREATMENT OF HÆMATOCELE.

In the *British Gynaecological Journal*, of Nov. 1903, Paul Zweifel, of Leipsic, writes on "The Treatment of Hæmatocele." He exhibited a specimen which was very instructive, as it showed that the rupture of the tube is not by any means always delayed till the third or fourth month, as—in connection with the old theory of its distension by the ovum—was formerly supposed, for here the history showed that only one period had been missed; and that the hæmorrhage took place eight days after the omission, or five weeks after the last menstruation. This ovum, not larger than a hazel nut, could not have ruptured the tube by distension, but must have eaten its way into the tubal musculosa as first discovered by Fueth and established as a fact oy the researches of Aschoff, Kuehne and others.

"Nowadays, extrauterine pregnancy is accepted not merely as the most frequent, but almost as the only cause of an hæmatocele.

"When a pregnant woman is attacked with symptoms of peritonitis, that is to say great pain in the hypogastrium, swooning, collapse, vomiting, decreasing volume of the pulse, if there be no fever, one must at once suspect an erosion of a gravid tube; and, in view of the great danger of inaction and the excellent prospects of an early operation, accept immediate operation as absolutely necessary."

The operation is not a difficult one; the bleeding tube must be quickly found and clamped. Begin the hypodermic infusion of salt solution during the administration of the anæsthetic, and, when the patient

is anæsthetised, ligate the tube and remove every drop of blood from the peritoneal cavity.

(The reviewer feels that on more than one occasion he has in such cases derived great benefit from opening the posterior cul-de-sac, at the conclusion of the abdominal operation, and draining the pelvic cavity into the vagina with gauze.—S.M.H.)

X-RAY THERAPY AND SKIAGRAPHY.

Under the charge of JOHN MCMASTER, B.A., M.D., C.M.

THE X-RAY TREATMENT OF CANCER AND TUBERCULOSIS.

In the January No. of the *St. Louis Medical and Surgical Journal*, Dr. G. E. Pfahler, of Philadelphia, gives the history and course of treating by x-rays of a number of cases of carcinoma and tuberculosis. Two cases of cancer of the breast have apparently been cured by 57 and 75 treatments, respectively. The recurring growth required the 75 treatments after two operations for removal had been unsuccessful. No dermatitis was produced in the first case, although exposures ranged from 10 to 25 minutes, whereas in the second on two occasions a dermatitis resulted with apparent improvement following each. In a 3rd case of recurrent carcinoma, where not only the breast, but the axillary glands had been removed the x-ray treatment was begun 7 mos. after the operation, and 2½ mos. after the recurrence was noticed. The supraclavicular and thyroid gland became affected early. Under treatment the case improved until a burn resulted and treatment discontinued. A recurrence developed on the side of the burn without the burn healing. He reports one case of sarcoma of the antrum in a girl of 16, in which the diagnosis was confirmed by microscope. The growth rapidly returned after the antrum had been curetted. There was protrusion of the eye-ball and contents of orbit, daily treatment of 5 minutes was given for a month with marked improvement. The treatments were lessened in number, but continued for 3 mos. longer. The result is important for there was no injury done to the sight of affected eye, and the improvement was continuous from the start. Apparent cure resulted.

The cases of tubercular adenitis, tubercular ulcers and lupus, all appear to have been decidedly influenced by the x-rays and symptomatically cured.

One case of epithelioma of the face was cured by 20 treatments with good cosmetic results, and one of the lower lips, involving the mouth

and neck was but little affected by the rays. Caustics had been employed for a long time previous to beginning the treatment. The mouth could not be opened to admit the rays to the parts most affected. The case was inoperable from the beginning. 90 treatments failed to materially affect it. He draws the following conclusions from his experience :—

(1) That the x-rays are of undoubted value in the treatment of certain cases of both superficial and deep-seated carcinoma and tuberculosis.

(2) That the more a case has been tampered with, the less likely it is to yield to the influence of the x-rays.

(3) That daily treatments, carefully and properly given, will produce the best results.

(4) That we should try always to avoid a dermatitis beyond a simple erythema.

(5) That there are idiosyncrasies in certain people which render them most susceptible to the x-rays, and in these people deeper burns may occur in spite of the most careful treatment.

(6) That an epithelioma involving the mucous membrane is much less likely to yield to the effect of the x-rays than when it simply involves the skin.

(7) That there is not likely to be any interference with the sense of sight, even though the x-rays are used directly over the eye.

(8) That tuberculosis, whether of the skin or of the glands, will yield, at least in certain cases, to the effects of x-rays.

(9) That the x-rays will give better cosmetic results than any other form of treatment in simple epithelioma of the face.

(10) That epithelioma of the mucous membrane should be removed as early as possible by the knife, and this followed by x-ray treatment.

(11) Operable cases should be operated upon, and in each instance followed by a course of x-ray treatment, and x-ray treatment should be given at the first sign of a recurrence.

(12) Inoperable cases should be given a trial with the x-rays, since even hopeless cases sometimes yield to this form of treatment.

(13) It is desirable to produce a distinct reaction in the treatment of lupus.

Dr. Charles Lister has made extensive use of the x-rays in diagnosing calculi in the kidneys and ureters. He claims much success with its employment for this purpose.

OPHTHALMOLOGY AND OTOLOGY.

Under the charge of G. STERLING RYERSON, M.D.,C.M,
Professor of Ophthalmology and Otology, Medical Faculty, University of Toronto.

THE CAUSES, PREVENTION AND MANAGEMENT OF MYOPIA.

J. Herbert Claiborne in *The Journal of Am. Med. Asso.*, Nov. 28th, 1903. states, as his initial proposition, that the condition of emmetropia is the normal refractive condition of the human eye. Infants, as a rule, are born hyperopic and, if they arrive at a condition of emmetropia, there must be an elongation of the antero-posterior axis of the eye. Emmetropia, therefore, is an acquired condition. Now, if all infants are born hyperopic, the growth of the eye should cease when emmetropia is reached, otherwise an elongation of the antero-posterior axis is produced, *i.e.*, myopia.

Since nothing in nature is stationary, it follows that the condition of emmetropia is transitory. Many believe that hyperopia is the normal condition of the eye. Claiborne regards emmetropia as the normal condition, and the myopic eye as a diseased organ. He does not claim that this is a logical deduction, but a practical fact. The cause of myopia is an elongation of the antero-posterior diameter of the eye. There are two theories as to the direct cause. Antecedent to the paper of Foerster, which appeared in Knapp and Schweiger's Archives in 1884, the accommodative hypothesis had universal sway; but Foerster set forth the reasonable claims of the convergence theory, in explanation of the cause of myopia. Foerster pointed out that if the elongation of the eye were caused by the muscular action of the tensor of the choroid, myopia would carry with itself its own infallible remedy, for the simple reason that the work demanded of the accommodative apparatus decreases as the myopia increases. All this ceases the moment we look for the origin and increase of myopia in the excessive convergence of the visual axes. As the nearsightedness increases, the convergence of the visual axes increases, while simultaneously its claims on the tensor of the choroid decreases. Foerster discarded the accommodative theory. and pronounced himself in favour of the convergence hypothesis.

In convergence of the eyes for near point, there is pressure on the sides of the ball by the external muscles, and the nearer the object is, the greater the pressure. At the same time there is necessarily a determination of blood to the eye, in conformity with that physiologic law which demands the presence of a greater quantity of blood during activity than during rest.

Myopia rarely occurs in very early life, but in the great majority of cases occurs after the child has begun the use of the eyes at school. The act of study involves the convergence of the visual axes. Scarlet fever and measles predispose to myopia by lowering the general tone of the system. Most children are inclined to hold their books too near the eyes. The squeezing of the eyeball by the muscles, supplemented by the natural congestion of the eye and the softness of the tissues in childhood, bring about the elongation of the eye. Heredity is a predisposing factor, the mother being more likely to transmit myopia than the father. Faulty illumination and poor school books play an important part in the production of short sight. Blurred print, print which is too fine, or which is printed on poor, rough paper, or books in which the spaces between lines are too narrow, are injurious. In schoolrooms the light should be arranged so that the light, if possible, falls from the left. The inclination of the desk should be such that the visual lines when the head is held in an almost erect posture should strike the plane of the desk at right angles. This will obviate the habit, so many children have, of bending over the desk. As to the posture, the head should not be bent, but should be held erect; and the book, if it is read in the hand, should be held in the hand very nearly on the same plane as the eye. Claiborne condemns the unfrosted electric bulb, and the Welsbach or Auer light, and prefers the Argand gas burner, or German student's lamp. He believes the excessive amount of myopia met with in Germany is due to the German type. He advises against reading in a reclining posture. During convalescence from any sickness the number of hours of study should be cut down. He condemns in round terms the pressure of school work of the present day, as children have to employ their eyes often as much as twelve hours a day.

What course should be pursued in the case of a child under fifteen years who has developed myopia? He believes that the defect should be fully corrected by glasses. The discussion of non-correction is inadmissable. Foerster concluded that three things were necessary in correcting myopia; first, a full and proper correction; second, proper position of the eyes at work; and, third, the use of abducting prisms. In all cases of choroidal lesions in myopia, Claiborne uses atorpine, to relieve the tension of the accommodation on the choroid.

THE SURGICAL TREATMENT OF HIGH MYOPIA.

Wurdeman and Black chose this subject for their article in the *Journal of American Medical Association.* The conclusions they arrive at are derived from the histories of 7,160 eyes refracted under a cyclo-

plegic and 861 without, in persons over forty-five years of age. Extraction or discission of the lens was done in the extreme cases with excellent results. In all operated cases, the following advantages were obtained: Increase of the visual acuity, enlargement of the retinal images, enlargement of the visual field, increased range for near work, the wearing of light lenses in the place of heavy ones, the pupil being brought nearer the retina, the eccentric visual rays are excluded, and the more extended use of the eye opened a new world to the patients. As the result of their experience, Wurdeman and Black arrive at the following conclusions:

1. The surgical treatment of myopia should be limited to those cases over —12.00 D., who suffer great inconvenience from their correcting lenses. The ideal cases are those of —17. to —18. D.

2. The operation is mainly indicated in young adults.

3. Cases having active disease and changes in the ocular structure, such as progressive myopia, choroiditis, fluidity of the vitreous, or detachment of the retina, are not operable.

4. The dangers of operative interference are more than counterbalanced by the results obtained, which are, mainly, increase of visual acuity and of the visual field, and the more extended use of the eyes.

LARYNGOLOGY AND RHINOLOGY.

Under the charge of PERRY G. GOLDSMITH, M.D., Belleville.
Fellow of the British Laryngological, Rhinological, and Otological Society.

FACIAL NEURALGIA—SIX CASES DUE TO DISEASES OF THE NOSE AND ANTRUM.

Peyer-Poucher (*Laryngoscope*, Aug. 1903) gives notes on six cases of trigeminal neuralgia or tic douloureux. He considers, from the endless number of cases in which stretching, resection, or total removal of the various nerves and ganglia have been done for relief of the condition, that the etiology of the disease must have been overlooked in a great majority of cases. He says it is beyond question that, as a rule rather than the exception, the disease is a reflex neurosis, or pressure symptom, from inflammation in the nose and antrum; and in any case, it is more rational to seek for and remove the cause of the neuritis, than to remove the nerves or ganglia themselves.

The six cases are very instructive. All were of long duration but none had had a nasal examination. In one case, all the teeth had been extracted without relief. Next the spheno-palatine ganglion was removed, with no return of paroxysms for two years, when a resection

of the supra-orbital nerve was performed, giving two more years relief. The pain having again returned, all the tissues were separated from the upper jaw on the affected side, so as to tear off any remaining nerves. This operation not having given relief, in desperation he had the Gasserian ganglion removed, during which operation, owing to hemmorrhage, it was found necessary to ligate the external carotid. He was free from pain for two years more. The author now saw the patient for the first time, finding an occluded nostril and a suppurating antrum, correction of which has entirely cured the patient.

PERSISTENT SUPERFICIAL NASAL HYPERÆMIA, DUE TO ADENOIDS.

At the November meeting of the British Laryngological Association, the president Dr. Wyatt Wingrave, gave the notes of this interesting case. The patient, a groom, complained of persistent redness of his nose of two years duration, gradual in onset and of unknown cause. The tip, alæ, and quite two-thirds of the nose were of a livid red color, somewhat shiny but neither swollen, tender, nor painful. Being much troubled with indigestion, he was forbidden tea, and was treated with alkalies and saline aperients, to diminish portal tension. Otherwise he was in good health, and a teetotaler, but a moderate user of tobacco. No improvement followed a month's treatment. A prominence of the supra-nasal vein led to an investigation of the naso-pharynx which revealed a large crop of adenoids. The adenoids were removed, the prominent veins disappeared, and in a month the organ became normal in appearance. The case is interesting in so far as it affords a striking illustration of the close relationship between the supra-nasal veins and adenoids, during a period of life, too, in which neither is common. Wingrave is inclined to view the case as one due to vaso-motor reflex, since it varied considerably in intensity, and did not seem to be so closely associated with a general venous hyperaemia as one would expect, were the adenoids acting mechanically by interfering with venous return.

FORMALIN IN THE TREATMENT OF NASAL POLYPI.

Adolph Bonner, *Jour. Laryngology*, December, 1903, discusses this method of treating nasal polypi and speaks very highly of its usefulness. He removes as much of the polypi or diseased mucous membrane as he can with a cold snare, and then applies formalin, on a probe with cotton-wool, to the roots. He tries not to cut through pedunculated polypi,

but to pull them out by the roots. He is thus able to remove the entire growth and frequently part of the underlying diseased bone. Before using the formalin he applies a powder, consisting of equal parts of cocaine, eucaine, and desiccated suprarenal extract to the parts, by means of a probe and cotton wool. After a few days a formalin spray, 1-500 up to 1-100, is ordered to be used *ter in die* for a week or two and then less frequently. If excessive pain is complained of as is sometimes the case, a paroleine spray is used before the application. The formalin not only acts as a powerful disinfectant, but also causes contraction and hardening of the diseased tisssues. Alkaline lotions and insufflations of tannoform, aristol, and boric acid are also used in the after treatment. In cases when there is accessory series disease, suitable treatment must be directed to these cavities,

THE EARLY MANIFESTATIONS OF LARYNGEAL TUBERCULOSIS.

H. H. Briggs, *Jour. A.M.A., Dec., 1903*, gives his observations from the examination of the larynges of subjects of pulmonary tuberculosis, made with a view to ascertaining the condition of the larynx prior to the characteristic tumefactions and infiltrations. The great majority of these subjects had a subacute or chronic laryngitis, not differing in appearance from one due to a diathetic or climatic cause. There was either uniform thickening, or hyperplasia of a reddish hue of the ventricular bands and arytenoid commissure, inter-arytenoid catarrh, presenting dilated blood vessels and covered with thick, grayish mucus. This laryngitis persists, notwithstanding the ordinary treatment for such conditions, and is principally dependent on the tubercular dyscrasia. He thinks the constant irritation by pus may be the most potent factor causing the persistence of this condition. He points out also that one may have a laryngitis in a tubercular patient from some other diathetic cause, bearing no sequential or etiological relationship to the tuberculosis, and also that many such ulcerated larynges are non-tubercular. Briggs has also observed that in three-fourths of his pulmonary patients there existed some form of nasal stenosis, septal or turbinal in nature. The acute form of laryngeal tuberculosis usually begins when softening has taken place in the lungs, and when the laryngitis has reached its crisis. Hyperaemia, followed by multiple erosions, is usually the condition found. The chronic form usually begins with an anæmia in the arytenoid commissure, arytenoid bodies, ventricular bands, or epiglottis, and presents a homogeneous and smooth, yellowish-gray color of the intumescent membrane, with or without infiltration.

HYPERTROPHY OF THE PHARYNGEAL TONSIL.

Wood, *American Medicine*, Oct. 3, describes in detail the conditions accompanying overgrowth of the pharyngeal tonsil. He says the tonsils are of no more importance than the ordinary lymph gland, and their removal should not be objected to. He divides the complications into two groups, mechanical and infectious. Mouth breathing is almost purely a mechanical complication, but may produce conditions favoring infection. He thinks many children, who appear backward at school, are so because of aprosexia, or failure of attention connected with this condition of adenoids. Skeletal deformities, such as chicken breast, narrowing of the alveolar arch of the upper jaw, is also frequently due to mouth breathing. In the statistics, which accompany his paper, Wood found nasal stenosis and aural mischief present in a large proportion of the cases.

PRESCRIPTIONS:

℞ Iodine, grs. viii.
Potass. Iodid, grs. xvi.
Zinci Sulph. Carb. ʒss.
Creolin xlv.
Aquæ ad. ʒvi.
M

For use in an atomizer as a stimulant, antiseptic, and deoderant in atrophic rhinitis.

GRAYSON.

℞ Sodii Sulph. grs. x.
Sodii Carb. grs. x.
Sol. Hydrarg. Biniod (1-8000) ʒi.
M

An excellent disinfectant and solvent for mucus and pus.

WINGRAVE.

THE TECHNIQUE OF MAXILLARY SINUS OPERATIONS.

In the abstract made last month from Dr. Holbrook Curtis' article on the above subject, the formula for the irrigation solution was wrongly quoted. It should be tr. iodine, ʒi; acid carbolici, ʒss; sat. solution boric acid grs. ad. 0i, to be used during the acute stage, to be reduced finally to saturated boric acid solution.

PROVINCE OF QUEBEC NEWS.

Conducted by MALCOLM MACKAY, B.A., M.D., Montreal.

The Montreal Medico-Chirurgical Society has been favoured with two addresses of exceptional interest at its recent meetings. At the first of these, Dr. Osler reported upon the cases of aneurism of the abdominal aorta which had been treated at the Johns Hopkins Hospital. At the second, which was held in the McGill University Physics Building, Prof. E. Rutherford gave a demonstration on radium, with a series of experiments, and illustrated with lantern views. Prof. Rutherford opened his lecture with a short reference to the history of radioactivity. The investigations of Roentgen the x-rays were the first definite steps taken towards the solution of the problems presented by this form of energy, more particularly those researches concerned with their action upon fluorescent screens and photographic plates. Closely following Roentgen, Becquerel, while observing the properties of uranium, found that it had a slow but definite action upon sensitized films. The electrical action of the substance was also investigated, and it was seen that the separated leaves of an ordinary gold-leaf electroscope collapsed when uranium was brought close to the instrument. Schmidt subsequently found that thorium had similar properties but in even greater measure. The Curies made the next important discovery, namely, that pitchblende produced a similar action upon the electroscope, with the addition that it had five or six times the strength of uranium. Evidently then, uranium was not the sole cause, and an analysis of pitchblende was the next step required for the isolation of radium, and at this point considerable ingenuity was shown. The compound was treated with chemical reagents, and the filtrate and precipitate each tested by means of the electroscope; the inert material was discarded, and the active residue again treated in a similar way, until the analysis was complete. By this method, radium, which is 500,000-times more active than uranium. together with polonium, which is not so active, was isolated from the mass of pitchblende.

A tube, containing radium in a pure state was then produced, and the lecturer explained its properties When freshly prepared it was a white substance which gradually blackened the tube which contained it, and when brought beside a fluorescent screen or piece of willemite caused it to glow with a pale light, easily visible in the dark. It acted with intensity upon photographic plates, and a piece of radium placed in a

dark room would, in a few hours spoil all the plates, even though protected by wooden and metallic covers. Its rays could easily penetrate several inches of iron, lead, mercury, or aluminium, and would produce skiagraphs of objects on a photographic plate with the greatest of ease, although lacking the clear cut outline of those obtained from x-rays. In illustration of some of the properties, photographs taken by means of radium were shown, and the effects upon fluorescent screen, willemite, and the gold-leaf electroscope were demonstrated.

Three different kinds of rays had been discovered emanating from radium, and called the x-,b-, and y-rays. The b-rays passed through wood, aluminium, and glass, and were equivalent to the rays from the cathode of a vacuum tube, inasmuch as they consisted of negatively charged particles moving at a speed a little less than that of light, and were affected when placed in a magnetic field. To illustrate this deviation, the lecturer caused a magnet to pass beside a vacuum tube, which was in action. The y-rays were very penetrating and could pass through a foot of iron or ten feet of wood, and corresponded to the Roentgen rays.

The x-rays were described as positively charged bodies, projected at the rate of 20,000 miles a second, readily absorbed, with slight photographic effect, and slightly deviated by a magnet in a direction opposite to that taken by the b-rays. This group of rays was the essential factor in the production of the remarkable phenomena which had been noticed in studying radium. By means of an ingenious instrument called a spinthariscope, the impact upon a fluorescent screen of the emanations from a weak solution of radium spread out over a considerable area, could be very clearly demonstrated. These emenations were first found by the lecturer to have all the properties of a gas, and on account of their negative effects were considered to be helium. Radium dissolved in water at once gave off these emanations which might be detected by a fluorescent screen, and the fact that they could be condensed, was a strong argument in favour of the conclusion that they really were of the nature of a gas. In proof of this a convincing experiment was performed before the audience, in which a tube containing the emanations rendered visible by means of a willemite screen, was placed in liquid air, and in the course of half-an-hour the emanations were found to be collected at the bottom of the tube, instead of being diffiused equally throughout. Two questions of importance were: Of what did the emanations consist, and what could account for the facts known? Evidently one had to deal with something different from an ordinary mineral, as from the knowledge acquired by experiments, there must be an instability of some of the atoms, in which one was released from the others and flew

off at a tangent, this being the x particle, which was probably hydrogen or helium. If this process were going on then, there should be at least two types of matter permanent—eventually there must be something left and something expelled. Mr. Soddy and Sir W. Ramsay found, on investigating the emanations transferred to a glass tube, that there was at first no spectrum visible, but several days later they found the characteristic bands of helium, which meant that helium was present in the closed tube; hence, helium must be one product of the process, and Professor Rutherford thought that it was the x part.

Radioactivity was not controlled or influenced by anything known, and would continue for practically an indefinite time, although without question, in a thousand years or so some change in weight would be appreciable. In regard to the medical uses of radium, the lecturer felt that he was hardly in a position to speak with authority, although he could mention some interesting facts. If a tube of radium were held in the hand for several minutes, a peculiar prickly sensation was experienced, and continual handling brought on changes in the epithdium, which eventually turned into a very slowly-healing ulcer. Caterpillars exposed to the rays died very soon, and mice gradually lost their hair, became blind, and died a week or two after exposure. Bacteria were hindered in their growth, but apparently not killed. Radium held before the closed eyes could be distinguished by the glow, and caused pain in the eyeball; temporary blindness might even be produced by a short exposure Cancer had been treated by the rays, but with practically no success although the convenience of application was evident.

Professor Rutherford suggested that, as the emanations could be conducted like gas to any region where air could penetrate, by using an inhaler a fine deposit could be disseminated throughout the lungs of a phthisical patient, which would have a curative tendency, inasmuch as it was hostile to the growth of bacteria. Radium, he thought, would be too powerful for obtaining the emanations, as they would act upon the tissues, besides only lasting five or six hours. Thorium or letturium on the other hand would be milder in action, and one treatment would be effective for several days.

Dr. Girdwood in moving a vote of thanks to the lecturer of the evening for his very lucid exposition of an intricate subject, referred to some of the medical uses of the rays, stating that at all events they did not replace the x-rays in curative effect on superficial cancer. Dr. Ruttan seconded the motion, and pointed out that the lecturer had mentioned too casually the important part which he had taken in the investigation of of radium. Professor Rutherford had held for several years the theory

that the x emanations really were helium, and only lately had the Curies and other experimenters come round to this opinion, convinced by the unanswerable logic of facts.

Professor Rutherford briefly replied, and one of the most interesting and well-attended meetings of the Society adjourned.

The General Hospitals of Montreal have for the past month been crowded with patients suffering from typhoid fever. The Royal Victoria Hospital has had from 40-45 cases, the General Hospital form 25 to 30, the Hotel Dieu from 15 to 20, and the Notre Dame from 12-15. The epidemic is practically confined to the Western suburbs, and in St. Henri it is estimated that there are 250 cases, in Ste. Cunegonde, eighty cases, and in Westmount, thirty-seven cases have been reported. The Westmount water supply has been examined, and the City Analyst states that it is dangerous, in that at times it contains a remarkable number of bacilli, both pathogenic and non-pathogenic. Every effort is being made to prevent further spread of the disease.

Dr. Harvey Cushing, of Baltimore, will address the Montreal Medico Chirurgical Society, on February the fifth. The paper is entitled, "Observations on Twenty Cases of Gasserian Ganglion Extirpation for Trigeminal Neuralgia." The following points will be taken up:—

1. A discussion of the various operative procedures which have been proposed.
2. Report of two cases by writer's method, with operative and post-operative complications.
3. Remarks upon the physiological consequence of removing the Ganglion.

According to a statement issued yesterday by Medical Health Officer Dr. Laberge, the number of deaths in Montreal last year was 6,941, as compared with 6,275 of the year preceding.

By accepting the official census of 1901, as a basis of calculation, the death rate per 1,000 for last year would be 24.22. But Dr. Laberge maintains the census figures of 267,700, made up in 1901 are too low. The estimated population of the city last year, according to these figures was 286.000, but Dr. Laberge contends it should be 324,000 by which the death rate would be reduced to 21 per 1,000.

MARITIME TOPICS AND NEWS.

Conducted by W. D. Forrest, M.D., C.M., B.Sc., L.R.C.P., Lond., M. R. C. S. Eng., Halifax.

NOVA SCOTIA BRANCH, BRITISH MEDICAL ASSOCIATION.

A meeting of the Branch was held in the Council Chamber of the City Hall, Halifax, on Dec. 9th. Dr. Arthur Bert, of Berwick, read a paper on the relationship between visceral syphilis and pulmonary tuberculosis. The paper was the report of a case that came under Dr. Bert's observation in his practice. The patient came to him complaining of cough, pain in the right side of the chest, loss of weight, sweats, and an evening rise of temperature to 101.5° F. or thereabouts. He had a hypertrophic rhinites and there was considerable enlargement of the liver and spleen. There was some retraction of the right apex with a limited expansion and also some dullness on this side. Repeated examinations of the sputum gave a negative result. He was placed on appropriate treatment and carefully watched. During the following summer he improved somewhat and gained in weight. The following winter, however, he got worse and the above symptoms all became more aggrivated. The liver was very large and tender. About this time a history of syphilis was obtained although this had all along been stoutly denied. Potassium iodide along with grey powder was prescribed and under this treatment all his symptoms quickly disappeared. The improvement noted in the summer time was due to potassium iodide which was prescribed for him by a nose specialist on account of his hypertrophic rhinites. Dr. Bert then read extracts from a paper by Dr. Janeway, of New York, on a very similar case.

Dr. Bert referred to anomalies of the shoulder girdle and muscles that may mislead one when examining the chest. This patient was a left-handed man and was much better developed on this side than on the right, hence the retraction of the apex and the flattening on this side.

The patient's slight anatomical differences was sufficient to account for his lung condition.

The pain was due to pressure from the liver. The doctor dealt with the possibility of the two conditions, namely, phthisis and syphilitic visceral disease coexisting. He did not now think there was any pulmonary trouble present. Auscultation had shown nothing abnormal

beyond slight prolongation of the experatory sound on the right side. Dr. Bert emphasized the fact that in syphilitic liver disease you may have an evening rise of temperature, sweats, loss of weight, etc., which might suggest tuberculosis.

Dr. Chisholm referred to a case that came under his observation with a diagnosis of tubercular disease of the knee joint. The patient had a suspicious mark on his forehead that suggested syphilis. The knee rapidly improved on potassium iodide.

Dr. Chisholm thought in all obscure cases the possibility of syphilis should be considered.

The first meeting of the new year was held at the Nova Scotia Hospital, Dartmouth, on the evening of January 6th.

Dr. Lawlor read a short paper on the "Stigmata of Degeneration."

He also presented the following cases of degeneration illustrating his paper. (1) A patient with cleft palate—no angle to the jaw and very small or shrivelled up ears. (2) A patient with a very high arched palate. (3) A patient with very small ears—much too small for the size of the head. (4) A boy of 26 whose general appearance would indicate that he was about 15. He had no hair on any part of his body except the head. (5) A patient with one side of the face much larger than the other. (6) A patient with a difference of one inch in length between the two humeri. Dr. Lawlor pointed out that it was rare to find a perfectly formed man. Everybody had some stigma more or less noticeable and it was only when taken in conjunction with other conditions that any importance could be placed on them.

In hospitals for the Insane they were generally looked for.

Dr. McKenzie, assistant medical superintendent, read a paper on "Paretic Dementia." He dealt with the part played in its causation by syphilis and alcoholism. He referred to its more frequent occurrence in men than in women. Dr. McKenzie said that in making a diagnosis it should be remembered that many cases do not exhibit exalted ideas. Many in fact are melancholic throughout.

Dr Hattie, Superintendent of the Hospital, read a very interesting paper on the "Prevention of Insanity."

He spoke of the influence of heredity and alcoholism in the production of insanity.

Dr. Hattie thought that legislation was necessary to restrict marriage among people who exhibit evidence of marked neurotic instability.

The children of such marriages were generally of a neurotic temperament and more or less predisposed to insanity.

Consanguinity was not now looked upon as so important a factor in the causation of insanity, if both parents are healthy. Dr. Hattie thought that the question of education was most important and should receive more attention than it at present does.

Drs. Stewart, C. D. Murray, Trenaman and G. M. Campbell took part in the discussion.

After a lunch, presided over by Dr. Hattie, the meeting adjourned.

PERSONAL

Dr. H. M. Hare has recovered from a severe attack of grippe.

Dr. Murphy, of Dominion No. 2, was recently in Halifax with his bride. We wish them many years of happy life.

Dr. T. A. Wallace is about to leave Halifax to practice in Providence, Rhode Island. The doctors many friends all wish him success.

We are sorry to learn that Dr. M. G. Archibald, of Upper Musquodoboit has been ill for some time with influenza. The doctor fortunately is now recovering,

The Victoria General Hospital Halifax, was recently visited by an epidemic of measles. This disease has been very prevalent in Nova Scotia during the past few weeks.

Dr. Ross Faulkner, of Mahone Bay, paid Halifax a visit last week, Dr. Faulkner has charge of the part of the South Shore Railroad near Mahone and has a large number of men under his care.

At a meeting of the Board of Directors, of the Halifax Dispensary, Dr. H. M. Hare was appointed to the Women's and Children's Department; Dr. W. D. Forrest to the Surgical and Dr. D. T. C. Watson to the Medical Departments.

Dr. R. E Mathers has returned from New York where he has for the past three months been in attendance on his mother. We are glad to be able to state that Mrs. Mathers' health has much improved and that she will soon be able to return to her home in Halifax.

Dr. John F. C. Foster, son of John B. Foster, of Halifax, formerly of Dorchester, has been appointed head house doctor in the surgical side of the Lincoln hospital, in New York city. Doctor Foster has been in the Lincoln hospital for the past six months.

MANITOBA MEDICAL NEWS.

Conducted by R. H Richards, M.D., C.M., Winnipeg.

Winnipeg has two large hospitals and two or three small private affairs, or nursing homes.

The Winnipeg General is the only one affording any clinical facilities. Of the 280 beds, 180 are used for teaching material.

This hospital was started in 1862 with about a half dozen beds. In 1883, $67,000 was spent on the first of the present group of buildings. Several additions have been made from time to time. A large surgical wing was added in 1899, costing $80,000. Still it was not sufficiently large for the needs of the country, and at present there is being finished an addition (costing $100,000) which will be ready for occupancy next spring. The government and management are entirely in the hands of a lay board of directors.

The hospital is supported by voluntary contributions, provincial, municipal, civic grants, church collections, regular subscribers, and pay patients.

The staff consists of a resident medical superintendent, under the direction of the board; six house surgeons, appointed yearly; a business manager, a lady superintendent, and seventy-five nurses. There is a very good nurses training school.

The various departments are in charge of a visiting staff as follows:—

General Medicine.—For this department there are 120 beds under four visiting physicians, who take three months each. 100 clinics are given during the eight months' session of college. A student may have two, or even four beds alloted to him to write case histories of and follow the treatment, etc.

General Surgery.—For surgery there are sixty beds in the hands of three visiting surgeons, who take charge for three months each. Each student may have two beds to follow out. 100 clinics are given during the session. The position of assistant dresser is open to students for one month each, and affords excellent experience. The operating amphitheatre is particularly fine and roomy.

Gynæcology.—There are two visiting gynæcologists. The students are given twenty-five clinics and see gynæcological operations during the session.

EYE AND EAR DEPARTMENT.—There are two visiting surgeons, who take alternate months. Twenty beds are alloted for students. Twenty-five clinics are given, besides operations, which are, of course, usually preceded by a clinic.

MATERNITY.—Twenty beds are available for clinics. There are two visiting physicians. Each student witnesses and assists at eight or more cases.

ISOLATION WARDS.—These are in charge of two of the visiting staff. Occasional clinics are given on infectious diseases.

PATHOLOGY.—This work is in charge of members of the staff. A new laboratory in the morgue is in contemplation.

The outdoor department not being in charge of any member of the visiting staff, is only occasionally used for clinics.

The students' fees are $6 for maternity, and $20 for a perpetual hospital ticket.

On account of most of the staff, in particular the clinical teachers, being also teachers at the Medical College only two blocks away, the student's work can be made very satisfactory.

The total visiting and consulting staff number twenty-one, and are appointed yearly; as is also the house staff, numbering seven.

St. Boniface Hospital, run by the R. C. Sisters of Charity, has 150 beds. It was started, in a small way, in 1871. The sisters are now intending to enlarge, at a cost of $100,000 next year. The hospital is in charge of one resident house surgeon. As all are private patients, there is no visiting staff and no clinical teaching. A nurses' training school is in connection with the hospital.

The R. C. sisters maternity hospital, on Broadway, accommodates 40, and is usually crowded.

Dr. R. W. Simpson was invalided for some time.

Dr. McKenzie, of Brandon, has left for a visit to England.

Dr. Montgomery has returned from California fully restored to health.

Dr. Oakway, interne at the General hospital, had scarlet fever recently.

Dr. Bell was a delegate to the International Health Congress at Washington.

Dr. Chown was in the east a short time ago on account of family bereavement.

At the annual meeting of the Winnipeg Medical Association, Dr. MacArthur was elected president; Dr. Popham, 1st vice-president; Dr. Gordon Bell, 2nd vice-president; Dr. Davidson, secretary; and Drs. McKenty, Beatty, Rogers and Crawford, councillors.

MEDICAL SOCIETIES AND GATHERINGS.

TORONTO MEDICAL SOCIETY.

The fourth meeting of the 25th year of this society was held in the Medical Building, Toronto University, Dec. 3rd, 1903, at 8.30 p.m., Dr. Bryans in the chair.

Dr. Oldright read a paper on The repair of Recto-Vaginal Lacerations. He said that the principal point was the doing of a partial Whiteheads operation before the perineorrhaphy. He gave the histories of two cases as follows: 1st, Ilpara, the forceps had been tried and then turning had been resorted to, the sphincter was torn into the bowel to the extent of 1½ inches. Immediate repair was attempted and succeeded up to the top of the opening in the bowel which did not close, leaving a small recto-vaginal fistula the size of a quill. Two months after two attempts were made to repair this opening, under local anaesthesia: cocaine was brushed on in 6% soln. The vaginal mucous membrane was dissected back and rectal mucous membrane turned in and sutured, then closed with reinforcing sutures. Another row of sutures was inserted on the vaginal surface as in a perineorrhaphy. After apparently doing well for a few days a leakage occurred from the bowels, a very minute opening being left. Another attempt at repair was unsuccessful. Then in July, 1900, the mucous membrane was cut away at the skin line and dissected up to a point above the opening, so that an intact portion of bowel was brought below the edge of the sphincter and cut off, stitching it to the skin margin as in Whiteheads operation for hemorrhoids. After this a perineorrhaphy was done and this time with success.

The second was one of laceration through the sphincter, and was repaired at the time, but as there was no trained nurse and the parts were not kept clean, failure resulted, the sphincter not even uniting. The operation here was the dissection up of the rectal mucous membrane and the uniting of the sphincter ani. A sleeve of bowel was then brought down behind the sphincter and the edge sutured up over it to the skin margin. A modification of Tait's perineonhaphy was then done, lifting the vaginal mucous membrane and obliterating the dead space in the usual way by removing two "V" shaped pieces from it, one at each side. The advantages claimed were the protection of the sphincter

from infection by the bringing down of the rectal mucous membrane and turning it up over the sphincter to be attached to the skin margin. The result was a success, the patient recovering good control of the bowels with no fistulous opening, nor prolapse remaining.

In the discussion Dr. Macdonald said that the cause of non-union was infection. If, after the separation of the mucous membrane of the vagina from that of the rectum, a purse string suture is placed in the rectal mucous membrane and then the vaginal mucous membrane is sutured and not turned in toward the rectum, but out to the vagina, this infection can be prevented. The Tait operation was only suitable to a very small number of cases with small laceration. The common cause of failure was not placing the suture deep enough, and tying them too tightly.

Dr. McIlwraith said that if the tear was very high up it would be impossible to draw it down to the sphincter.

Dr. Hay said that when the sphincter was torn and united by scar tissue this must be cut out and muscle brought to muscle.

Dr. Primrose exhibited a number of lantern slides: 6 of carcinoma in the neck; 2 of hypospadius; 2 of epispadius; 2 of ectopia vesicæ; 2 of filariae in the scrotum; 2 of nevus lypomatodes; 3 of blastomycosis; 4 of lupus of the nose; 5 a number of sections showing the anatomy of the heart.

The Secretary read a letter from the Prisoner's Aid Society asking that a committee be appointed to act with similar committees from the Ontario and Canadian Medical Societies, to help on the movement to care for indigent inebriates. On motion, the President was asked to appoint such a committee.

Stated meeting Dec. 17th, 1903, Dr. Silverthorne in the chair.

Dr. Clarence Starr showed (a) a case of Pott's disease in which there had been a paraplegia from pressure, and which had been cured of the paralysis by removing the pressure, and had been allowed to go home, where the splints had been allowed to get loose, and finally been left off altogether, with a return of the paraplegia. Now the brace was again giving relief, and there was again commencing recovery from the paralysis. (b) a case operated on some years ago in New York for congenital hip-joint on the right side, resulting in osteo-myelitis, there was a sinus passing down to dead bone. It appeared to be tubercular, though the bacillus had not been found after repeated examinations. The left hip was also out, but from the long rest in bed there was no sliding up and down of the head of the femur.

Dr. Peters showed a case of ecstrophy of the bladder, and procidentia of the rectum. He described his method of operation in these cases and gave the results. The bowel is drawn up into an incision in the groin and turned in upon itself and stitched so as to form a support of the wall of the intestines; this is done on the opposite side to the mesentery.

Dr. Primrose showed (a) a case of Pott's disease. Extension had been kept up for two years without improvement. Laminectomy was then done six weeks ago the 7th, 8th and 9th dorsal being removed, and an abscess found pressing on the cord. Already there is considerable improvement. (b) He reported a case in which he had operated to-day to cure a hernia which had been operated on some years ago and in which a Halstead's operation had been done. The hernia was through the upper part of the old wound and was reduced and a Bassini's operation done.

(c) Also a case of Pott's disease. (d) A patient who two years ago had Bright's disease, with general anasarca at the time he was in the hospital, the quantity of urine passed being small. The right kidney was cut down upon and the capsule split, after which there was some improvement and about two months later the left kidney was cut down upon and a decapsulation done. Three weeks later there was not a trace of albumen and the ascites had disappeared. About two months ago, the swelling began again and there was a return of the albumen. Last week the right kidney was decapsulated. It was found to be beautifully fixed though no sutures had been placed when the capsule splitting was done and the band of adhesions was so strong that the kidney substance was torn.

(e) A tubercular abscess which had been opened and cleaned out. It was then filled with iodoform emulsion and closed, union by first intention resulting.

Stated meeting Jan. 14th, 1904. The President Dr. Silverthorne in the chair.

A letter from the Medico-Chirugical Society of Ottawa was read and on motion of Dr. Meyers and seconded by Dr. McMaster the President appointed Drs. Wilson, Ferguson and Carveth, a committee, to take the matter, there referred to, up and report. Dr. Carveth took the chair and Dr. Silverthorne read a report of a case of Anthrax with exhibition of the patient. The patient is a freight-handler whose occupation was removing from cars of broken freight, labelling and distributing to destination, green hides constituting a considerable portion of such freight and hardly a day would pass without some being handled.

Two or three days before Dec. 16th. Dr. McCormack saw him with what seemed to be a boil at the back of his neck, he felt poorly but was still working. On Wednesday, the 16th, he fainted on arising and had a bad headache. He was sent in to St. Michael's Hospital that evening. Dr. McCormack had suspected Anthrax from the picture,—a vesicle in the center drawn down with a dark area of tissue beneath; a ring of red vesicles complete and separate. The lump was never painful but from constitutional conditions the pain in the head was severe, but when transported to the Hospital it got better. The ring of vesicles had flattened and run somewhat into each other, there was much tumefaction. A smear was taken from the vesicles and stained with methyline blue and showed the bacillus Anthracis in abundance. The patient was anaesthetized and the part was prepared for operation by cutting with scissors and not shaved for fear of spreading the infection, then swabbed with pure carbolic all round and then washed with alcohol and this repeated, then the incision was carried down to and included the trapezius muscle, the entire tumefied portion was taken out and pure carbolic was applied to the surface, and packed with iodoform gauze soaked in carbolic acid. There have been no symptoms since. The smears were positive, a guinea-pig inoculated only lived 36 hours. There were four specimens under the microscope, (a) the original smear; (b) the liver; (c) the kidney from the guinea-pig; and (d) a section from the mass removed. He also showed six diagrams.

Dr. Peters moved seconded by Dr. Ferguson, and resolved, that the Toronto Medical Society express its appreciation of the work being done by the Canadian Medical Protective Association. That the society tenders its support to the efforts made by the officers of the association and that a copy of this resolution be forwarded to the President, Dr. Powell. Carried unanimously.

ONTARIO MEDICAL ASSOCIATION.

The following temporary committees were appointed by the President, Dr. J. F. W. Ross, prior to his departure for his trip to Egypt.

Committee on Papers and Business.

Dr. A. A. Macdonald, Dr. N. A. Powell, Dr. G. A. Bingham, Dr. J. T. Fotheringham, Dr. W. J. Wilson, Dr. T. F. McMahon, Dr. G. Chambers, Dr. R. D. Rudolf, Dr. J. Caven, Dr. H. Parsons.

CORRESPONDING MEMBERS OF COMMITTEE ON PAPERS AND BUSINESS.

Peterboro, Dr. McNulty; St. Catharines, Dr. John Sheahan; Windsor, Dr. Jas. A. Ashbough; Woodstock, Dr. W. D. Parke; Kingston, Dr. Jas. Third, Dr. R. W. Garrett; Hamilton, Dr. H. S. Griffin; London, Dr. H. A. McCallum; Ottawa, Dr. J. D. Courtenay; Belleville, Dr. Perry Goldsmith; Guelph, Dr. Angus McKinnon; Chatham, Dr. J. L. Bray; Owen Sound, Dr. T. H. Middlebro; Collingwood, Dr. Arthur; Barrie, Dr. J. C. Smith; Orillia, Dr. W. C. Gilchrist; St. Thomas, Dr. Frank Lawrence; Brantford, Dr. L. Ashton; Stratford, Dr. D. B. Frazer; Brockville, Dr. R. A. Bowie.

COMMITTEE OF ARRANGEMENTS.

Dr. A. Baines, Dr. B. L. Riordan, Dr. H. J. Hamilton, Dr. A. Primrose, Dr. W. B. Thistle, Dr. D. J. G. Wishart, Dr. A. H. Garratt, Dr. J. M. Cotton, Dr. E. E. King, Dr. C. J. Hastings, Dr. A. Eadie, Dr. J. B. Gullen, Dr. H. A. Bruce, Dr. R. J. Dwyer, Dr. W. H. Pepler, Dr. F. Fenton.

HOSPITAL ABUSE.

Dr. W. J. Wilson, Dr. R. A. Reeve, Dr. C. J. Hastings, Dr. E. J Barrick, Dr. A. A. Macdonald, Dr. C Sheard, Dr. G. A. Bingham.

NECROLOGY.

Dr. A. Primrose, Dr. J. McCullough, Dr. A. H. Howitt.

AUDIT.

Dr. D. J. G, Wishart, Dr. C. H. Carveth, Dr. G. Elliott.

CANADIAN MEDICAL ASSOCIATION.

The thirty-seventh annual meeting of the Canadian Medical Association will be held at Vancouver, B. C., on the 23rd, 24th, 25th and 26th days of August, 1904, under the presidency of Dr. Simon J. Tunstall of that city. Mr. Mayo Robson will be a guest of the Association.

AMERICAN INTERNATIONAL CONGRESS ON TUBERCULOSIS.

The committee of arrangements are making every effort to perfect all the plans for the meeting which is to take place in St. Louis, in October, 3, 4 and 5, 1904, under the auspices of the Universal Exposition. It is to be hoped the attendance will be large. Prof. Maurice Benedict, of Austria, will give an address on the " Toxins of Tuberculosis. Dr. E. J. Barrick, Toronto is President.

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EDITORIAL.

CANCER: ITS ETIOLOGY AND TREATMENT.

In a recent number of the *British Medical Journal* there are a number of able and interesting articles on the above subject.

The first one is the Bradshaw Lecture by Mr. Henry Morris. In his lecture he reviews at great length the literature on, and the theories regarding, the etiology of cancer. He refers to Katz's division of the causes of cancer as entogenous or intrinsic, and ectogenous or extrinsic. The entogenous theories are mainly those of Thiersch, or the "lost balance theory," and of Conheim and Durante, the "matrix" or "tumor germ theory." By the former there is a loss of balance between the epithelial cells and the connective tissue. This occurs during the advancing years. The lecturer gives his adherance to the tumor germ theory of Conheim. This theory teaches that carcinoma arises from embryonic epithelial cells which are excited into activity under certain conditions, and multiply into large numbers. The ectogenous or extrinsic causes are divided into (1) injury, chronic irritation and chronic inflamation; and (2) micro-organisms. Mr. Morris rejects the view that cancer is due to micro-organisms such as fission fungus, yeast fungus, psorosperm, bacterium, blastomycete, or protöozon. In regard to Conheim's theory he quotes the words, "it has search-light luminosity. Like radium, it keeps on burning brightly, without consuming itself."

The next article is a contribution from H. G. Plimmer, who is in charge of the cancer laboratories of the Lister Institute of Peventive Medicine. He argues the microbic origin of cancer with much ability. He reviews the opinions of those who hold this view, and comes to the conclusion that no other theory can be advanced to explain all the origin and clinical characteristics of the disease. He contends that there are certain bodies that are always found in the cancer cells. But to obtain satisfactory results, it is necessary to examine the specimens taken from the living specimen, and examined on the warm stage. The bodies that are found in the cancer cells are not found in any other tissue in the body. The bodies that have been regarded as the parasite of cancer have been considered by some as merely portions of the cells,

or centrosomes. But this, again, has been shown to be an incorrect view. The role played by injury in the etiology of cancer is explained by the fact that weakened or new tissue is most easily infected by the parasite. But there are the facts that cancer has spread from one part of the body to another, as from the breast to the touching arm, and from the lower to the upper lip; that two or more persons in the same house have suffered from the disease; and that certain districts are known as cancer areas. The argument that the disease cannot be transferred to animals by experiment does not disprove a parasitic origin, as this is true of syphilis, leprosy, and the exanthemata. But when cancer does occur in an animal other members of the same species can be inoculated from it. He concludes by saying, "When we think of the clinical course of the disease, its beginning in one spot, its extension to distant parts by lymphatic or blood vessels, the cachexia, out of all proportion to the extent of the disease, the spread by contagion, the occurrence in certain parts of the body, and its return after years of quiescence, we are driven from this side, too, on to the parasitic theory, in which, as in no other, all these events find their explanation."

Mr. G Lenthal Cheatle, C. B., F. R. C. S., follows with an article on "the behavior of cancer within nerve and trophic areas." In studying cancer he states that it is necessary to keep in mind the following propositions:—

1. The genesis, which includes those matters which appertain to the actual agent which induces epithelial proliferation.

2. The incidence, those matters which relate to the site or soil in which cancer primarily begins.

3. The spread, that which concerns the area of occupation of the cancer when considered apart from its secondary deposits.

He contends that constant irritatien over a long period produces marked intracellular changes in the ganglia of the posterior sensory nerve roots, it will also probably induce profound phsiological changes in the areas of their distributions as well as at the actual sites of irritation. Mention is made of the fact that epithelioma and rodent ulcer are very closely associated with the distribution of the fifth cranial nerve. When rodent ulcer is multiple, the points of incidence are nearly always on the area or areas of one or both fifth cranial nerves respectively. On the trunk rodent ulcers begin usually on points of certain nerve areas. This is so frequently so that these areas are called maximum points. He mentions the fact that in herpes zoster the epithelium over a certain area dies, and there are always changes in the posterior spinal root ganglia. Some change in these ganglia may cause proliferation, instead of death, in the epithelium. This would be the condition found in cancer.

With regard to the spread of cancer he remarks, "I now more firmly believe in the possibility of a direct or indirect nervous agent, above all others, influencing the spread, a belief which is constantly receiving support by the addition of fresh cases and continued investigation."

Dawson Turner, M.D., takes the important subjects of ultra-violet light, x-rays, and radium rays. Ultra-violet light possesses the following properties: It is powerfully active, can excite fluorescence, can discharge an electrified body, and has clinical and bactericidal effects. With regard to the x-rays he offers the opinion that all the effects are not due to the rays, but to the electro-static field and ionization round the tube. To test this view, he has treated some cases successfully with the cathode breeze. This would go to prove that the curative action of the x-rays is not wholly due to them. As to the properties of radium rays the following have been established. They can inflame and ulcerate the skin, act on the nervous system causing paralysis and death, and luminous effects in the partially blind. They have some curative properties for those diseases in which the x-rays are used; but as far as can be judged at present radium is not as efficient as the x-rays.

John McIntyre, M.B., F.R.S.E., discusses the merits of radium. He regards it as useful only in rodent ulcer, lupus, and superficial skin lesions. He does not regard it as of value in deeply seated disease. He records a case of epithelioma of the nose that was not improved by the radium rays, which was greatly benefited by the x-rays.

Lovell Drage, M.A., M.D., closes the series of articles with one on the treatment of cancer by the injection of cinnamate of sodium. Experiments have shown that the intra-venous injections of sodium cinnamate give rise to marked leucocytosis. In the treatment of cancer and tuberculosis, Dr. Drage gives an injection, about once a week, of m 30 of a 10 per cent glycerine solution of sodium cinnamate. He has not yet published his formula for making the preparations of cinnamic and salicylic acid solutions with glycerine and sodium. His reason is that he wishes to perfect his methods first. In seven cases of cancer in the breast, larynx, tonsil, and liver there was marked improvement following the injections of the sodium cinnamate. The injections are made, when possible, between the cancer and the subjacent tissue.

THE TREATMENT OF PNEUMONIA.

We offer no apologies in giving our readers that portion of Dr. Lees' Harveian Lectures dealing with the treatment of pneumonia. For sound therapeutic advice we have not seen its equal for a long time. It will well repay the most careful study.

To succeed in the treatment of pneumonia, one must be most unremitting in his attention to every detail. There is no disease that makes more demands upon the therapeutic resources of the attending physician. It must be borne in mind that we have no specific; and, therefore, our treatment must be almost wholly symptomatic.

Dr. Lees pays great attention to the condition of the right side of the heart. This advice is all important. He states that pneumonia tends to kill usually by heart failure,not of the left, but of the right side of the heart; not by syncope, but by asphyxia; not by enfeeblement of the left ventricle, but by over-distension of the right. The utmost attention should be given to increased area of dullness of the right auricle in the fourth intercostal space. This right heart distension and distress can often be relieved by the loss of a little blood, by means of 6 to 12 leeches, for an adult; or, 6 or 8 ounces from the arm in an early stage, or 18 or 20 ounces at a later stage with great distension. The leeching and the venesection may be repeated if required. The object of the bleeding being to relieve the right side of the heart and not to control the inflammation in the lungs.

The diet of the patient is of the utmost importance. One of the best nutriments is milk, as it is readily taken, easily digested, and acts well on the kidneys and skin. This is the ideal food for the first two or three days, and three or four pints daily for an adult should be given. But when the right side of the heart is becoming distended, it is well to administer small quantities of a highly concentrated and predigested nutriment. For this purpose malted milk powder is very useful. Its composition is one half desiccated milk, and the other of malted wheat and barley with a little sodium and potassium bicarbonate. Half an ounce of this powder dissolved in two ounces of milk may be given every hour. After the first bleeding has relieved the right heart, water may be allowed with sufficient freedom to allay the thirst. As much as four pints may be given every twenty-four hours. This also aids in ridding the system of toxins.

Sleep is one of the most important things to secure for the patient. The sleep may be disturbed by pain, by the fever, by restlessness, by dyspnoea, or by cerebral congestion. Sleep must be secured if the patient is to fight a winning battle. Every night's sleep is of great importance, and restless nights at the beginning of the attack tell heavily against the patient at the later stage of the disease. No matter then what else the attendant does during the first three days, he must secure sleep for his patient. If there is pain it must be relieved and the best way to do this is by a hypodermic injection of morphine. If

there is not much pain, sleep can be secured by a combination of bromide and chloralamide or trional given in hot brandy and water. When there is marked dyspnoea, the patient cannot sleep, and he needs all his energy to keep up respiration. Morphia must not be given in such a condition, as it reduces the activity of the respiratory center. Rest must be obtained by relieving the right side of the heart, and nothing will do this so well as a moderate bleeding. When this has been done, and the dyspnoea, cyanosis, and restless are quieted, the patient may sleep without a hypnotic. If necessary to ease pain and procure sleep, a small dose of morphine may now be given. Other hypnotics will answer if there be no pain. Chloral should, however, be avoided.

The proper employment of heart tonics calls for careful consideration. The best of these is strychnine, and it should be commenced early in the disease. It should be given hypodermatically. Atropine is of much service in the failing heart of pneumonia. It is, however, of far more value in children than in adults. One minim of the liquor atropiæ twice a day, increased to every four hours, for a child, is very valuable in the heart failure of diptheria and pneumonia. The inhalation for 10 minutes each hour of oxygen is a good heart tonic by causing aeration of the blood. Digitalis is useful if the right heart is not too distended and laboring. Ammonium carbonate is useful as a cardiac stimulant if there be much bronchial secretion. Alcohol is not a cardiac tonic, nor stimulant. It is a vasomotor depressant, and, by reducing arterial tension, may do good when the right heart is dilated and over full. In all cases, where the right heart is distinctly distended, there is no cardiac tonic equal to the abstraction of enough blood to relieve the distension, rest the dyspnœa and remove the cyanosis. It is not until this has been done that the cardiac tonics can act.

The next feature of Dr. Lees' treatment is the free application of ice to the chest wall. As soon as the disease is detected one or more bags of ice are applied over the affected areas. This is watched closely and additional bags are applied to new areas of consolidation. The icebags must be placed over the diseased areas. This requires much tact on the part of the nurse when they have to be placed on the back of the patient, as the lumps of ice will annoy the patient as he lies on them. Yet, with care, this can be overcome. While the icebags are being employed, the patients feet must be kept warm by means of hot water bottles. As many as three icebags may be required to cover enough lung surface. Patches of consolidation will yield to the icebag if they are detected early and the treatment carried out faithfully. The icebags lower the temperature, lessen pain, limit the spread of consolidation, and shorten the duration of the attack.

But Dr. Lees, along with most writers on pneumonia, does not appear to us to pay sufficient attention to the dangers of the first week of convalescence. While the system is still full of toxins and the heart muscle weak, to those who are past midlife, there is real danger for some days after the crisis. At this age the coronary arteries may be diseased. The utmost attention should be given to this period.

DR. OTTO SCHMIDT'S TREATMENT OF CANCER.

Dr. Johnson gave an address recently before the Abernethian Society of St. Bartholomew's Hospital on the specific treatment of cancer which has been worked out by Dr. Otto Schmidt, of Cologne. From Dr. Johnson's address, as it appears in *The Lancet* (British), we gather the following conclusions :—

In the first place, Dr. Schmidt holds that cancer is always of parasitic origin. There may be injury or irritation of the affected part as a predisposing cause, but the exciting cause is the characteristic parasite. It is this that must be combated. He has found this parasite in every case examined, and has succeeded in producing tumors in two white mice by injections of the pure cultures of these parasites.

The treatment is two fold. First, active immunisation, by the injections of cultures 14 to 21 days old, which are killed by the application of heat, 65° C., and second, passive immunisation by the injection of serum from the immunised animals, sheep and horses. Both methods have been tried in the same case. It is not material into what portion of the body the injections are given. If cancer be present in the body a reaction is invariably produced. After the third or fourth injection there is a sense of malaise, the temperature rises some, in a few cases as high as 102° F. It falls to the normal in a few days. If the system is very much poisoned by the toxins of the disease there may be no reaction. There is also some swelling in the tumor and in any infected glands, and pain and tenderness in the affected parts. This reaction diminishes as the treatment goes on and the patient becomes immune. The reaction always occurs. In one case there was no reaction, though cancer had been diagnosed ; but it was proven that the growth was not malignant.

Under this method of treatment a number of cases made remarkable improvement. There was decided decrease in the size of the growth, and in the foul odor from those that were sloughing. Portions of dead tissue are thrown off. The reaction is clearly of an inflammatory character. If the injections are repeated and the size of the injections increased, a state of chronic inflammation is induced, which leads to the

destruction of the cancerous growth, or tissue. There is a distinct leucocytosis produced in the tumor and adjacent tissues. The good results of this treatment is quite manifest in those external cases that are under ready observation.

It cannot yet be predicted whether this method of treatment will prove curative of cancer. Certainly in a number of patients distinct improvement took place. If the disease be parasitic, and Dr. Schmidt has suc-ceeded in isolating them and making cultures of them, then it may be possible to elaborate immunising products. In the meantime we must wait.

DR. MARMORECK'S ANTI-TUBERCULOUS SERUM.

A short time ago, *British Lancet* 12th December, 1903, Dr. Marmoreck gave an address before the Paris Academy of Medicine. It is well worthy of the closest study, as it shows the great advances that are being made, and affords good ground for the hope that the day is not far off when there will be in the hands of the profession a serum competent to control the ravages of the tubercle bacilli.

It is interesting to follow Dr. Marmoreck's reasoning that the injection of tuberculin does not act upon the tubercles, but stimulates the bacilli to form a large quantity of toxin, which causes the reaction. He states that if there are no bacilli in the system there will be no reaction; and, again, if the the system be profoundly saturated by the toxin of the disease there may be no reaction, as the extra quantity of toxin provided by the stimulus of the tuberculin may not be capable of bringing on a reaction when there is already so much toxin present, as the additional quantity of toxin is so small compared with the total.

Another portion of the address which is of much importance is the description of how a leucocytic serum is obtained. By injecting into the peritoneal cavity of a guinea-pig some peptonized bouillon, he obtains a large number of leucocytes. These are washed out by means of normal salt solution from the abdominal cavity. This salt solution containing the lencccytes is injected into a calf. In this way a serum is secured possessing leucotoxic properties. The primitive bacilli grow within this medium with great difficulty. Bacilli grown in this leucotoxic serum does not contain tuberculin for a long time but, some other toxic substance which does not cause any reaction in tuberculous animals. By this means the bacilli are maintained in their primitive condition for a long time.

Dr. Marmoreck took also into account the fact that the liver is very rarely the seat of tubercle. In this organ there appears to be some

quality that is inimical to the growth of the bacilli. It was thought that to cultivate the bacilli in a culture medium containing liver substance, it might be possible to obtain a strain of bacilli that might yield special products.

By working along these lines, Dr. Marmoreck has succeeded in obtaining a toxin of special power. By means of it he has been able to immunize animals, and to effect what appears to be cures in some cases of human tuberculosis.

We will all wait with eagerness for further announcements from Dr. Marmoreck. Enough has been done to warrant the prediction that this great plague will be compelled to yield its secrets to the keen search lights of investigation, and permit itself to be bound by the strong arm of science. It will then be possible to say, *post tot naufragia portum.*

THERAPEUTIC USES OF ORGANIC EXTRACTS.

At a meeting of American Therapeutic Society, Dr. O. T. Osborne gave an address upon the above subject, which appeared in the *Medical News.* Among other things, Dr. Osborne stated that in the thyroid gland there is an active principle that would cause nausea, vertigo, increased heart action; cause sweating, diuresis, faintness, cerebral irritation, tremors, and even glycosuria. The properties of the thyroid gland render it valuable in the treatment of cretinism, myxoedema, and strumapriva. It is also useful in cases of enlarged thyroid gland with loss of the essential elements of the gland. It should not be given in exophthalmic goitre. In all cases of this disease, if there be cerebral and vascular excitement, the gland should not be administered. If, on the other hand, the patient is dull, sleepy, is putting on flesh, and with little heart hurry, thyroid treatment may benefit, as in such cases the active elements of the gland are disappearing. The feeding of the gland will cause almost every obese person to lose flesh. The function of the thyroid gland is closely related to menstruation. This explains the great frequency of Grave's disease, and myxoedema among women. The gland has been found useful in preventing the connective tissue growth in ataxia, and arterio-sclerosis. It has also been given with benefit in melancholia, and the insanities of the menopause and the puerperium.

The pituitary body and thyroid gland are closely related in function. It is seldom that one is found diseased, and the other healthy. In true giantism and acromegaly, the pituitary body has always been found diseased. It is true there may be tumor of this body, without giantism or acromegaly; but in these cases there is no doubt some normal gland.

Giantism is caused by hypersecretion of the gland; while acromegaly is due to disturbed, or diminished, activity in it. The hypersecretion in giantism passes, in time, into the disturbed condition of acromegaly, so that if patients with giantism live long enough, they will exhibit the deformities of acromegaly. In cases of acromegaly, with headache and muscular weakness, much benefit is derived from the feeding of the pituitary gland extract. Two or three grains is the dose. This treatment may be useful for dwarfs.

It would seem that the thymus gland has something to do with the growth of bone. It might, therefore, be useful in children with slow or perverted osseous development. In Graves disease, where the thyroid gland exaggerates the symptoms, the thymus gland extract does good—the gland has been found valuable in pulmonary tuberculosis. It seems to do this by the deposit of lime salts in and around the tubercles. The dose is two to three grains.

The suprarenal gland yields an active principle. When taken into the system, it has wonderful power in raising blood-pressure, and stimulating the heart. It should be given in heart failure, in shock, the crisis of disease, or injury. The dose is five to ten drops of the 1 in 1000 solution, every fifteen to thirty minutes on the tongue for a few times; then every three hours if needed. The local action of adrenulin is well known and need not now be discussed. In diabetes, it has proven itself to be of signal service. The suprarenal gland is fed by the mouth, on the theory that it was likely the other constituents of the gland rather than the blood-pressure raising substance that was of benefit. Adrenalin should be used in all cases of low vasomotor tension, as Addison's disease and the anæmias. It should also be used in narcotic poisoning, in shock from anæsthesia, and in inflammation or congestion of the mucous membranes.

The ovaries and testicles yield important secretions. It is not yet known in what conditions these glands, or their extracts, may be given to advantation. It has now been determined, however, that the parotid gland possesses marked activity. It is of value in dysmenorrhœa, with too much flow. It is of great benefit in some examples of epilepsy.

Nothing definite, can as yet, be said on the use of mammary gland preparations.

THE CANADIAN MEDICAL PROTECTIVE ASSOCIATION.

It is, we think, well within the truth when we state that there never was organized in this country a more useful association for the medical profession. But to be of use it must have members. The officers have

made every effort to forward the interests of the Association; but, so far, the response has been slow. It takes time, however, to educate the profession to the necessity of supporting such an association. The Association has been of very substantial assistance to a number of medical practitioners throughout the country, and is destined to be much more useful as its membership increases.

As an indication of what might be done to aid this Association. we take pleasure in mentioning the efforts of Dr. Peters, of Toronto. A short time ago, he brought the claims of the Association before the notice of the Toronto Clinical Society; and, as a result, has secured ten members. The other evening he introduced the subject at a meeting of the Toronto Medical Society and secured some additional members.

This would be excellent work for the various medical associations throughout Canada to take up. They could do nothing of greater value to themselves or to the profession at large. We hope that the Association has now seen its darkest days, and that its future will be one of rapid growth and great usefulness. *Sera nunquam est ad bonos mores via*—it is never too late to mend.

THE ANTI-VACCINATIONISTS.

The Anti-vaccination League of Toronto, interviewed Premier Ross on the 20th of January. The Premier very properly replied that public opinion was against the idea of the Anti-vaccination League. He suggested that the League should secure an interview with the Provincial Board of Health.

One of the greatest boons of modern science is the discovery and practice of vaccination. It has been in use now for about one century. During this time it is safe to say that it has saved more lives than all the wars put together have destroyed.

In Sweden from 1774-1801 the death-rate from smallpox was 2,008 per millon of population, from 1801-1815, a period when vaccination was practiced but optional, the death rate was 631; from 1815-1885, when vaccination became compulsory, the death-rate was only 173. In London, per million of population, the following death rates pertained from smallpox: 1771-1780, 5,020; 1801-1810, 2,040; 1831-1835, 830; 1838-1853, 513; 1854-1871, vaccination now compulsory, 388; and 1872-1890, vaccination compulsory and more efficiently enforced, 178.

But for children under 10 years of age, the attack rate is 5 per 1,000 among the vaccinated, and 101 per 1,000 among the unvaccinated. The death rate among the vaccinated was 0.09, and among the

unvaccinated, 44. In persons over ten years of age, the attack rate was was, per 1 000, among those twice vaccinated, 3; among those once vaccinated, 19; among those not vaccinated, 94. The death rate among those twice vaccinated was 0.08; among persons once vaccinated, 1; among those not vaccinated, 51.

It is absolutely useless for people to argue against vaccination. The law should be compulsory for re-vaccination as well as vaccination. Smallpox is so extremely contagious that nothing but vaccination will control its spread. In pre-vaccination days there was an epidemic every few years. This is what the Anti-Vaccination League would bring us back to.

But it would not do to leave it optional with such people, as they would not even protect their own children, and would be a constant menace to the health of the community. Dr. E. K. Richardson and Dr. Adams were reported as being in the deputation. One would like to know where they learned their objections to vaccination, and from what source they obtained the statistics against it.

PERSONAL NEWS ITEMS,

Dr. Conway Cartwright has returned to Ottawa.

Dr. J. F. Black, of Halifax, is touring through Egypt.

Dr. J. W. McCullough is gazetted a coroner for Moose Jaw.

Dr. Norman McLeod, of Toronto, is taking a three months' course in a Buffalo hospital.

Dr. Reid, Perth, has given up practice and left for near Collingwood, where he will locate.

Dr. T. S. Sproule, M.P. for East Grey, was banqueted at Meaford by Meaford and St. Vincent friends.

Dr. and Mrs. Ferguson, of London, spent New Year's at Courtright the guests of their son, Dr. J. Ferguson.

Dr. Osler, of Baltimore, has been for several days lately giving Mr. Harris, of Montreal, sittings for a large portrait.

Dr. C. E. Watson, Gladstone, Mich., spent the holidays with his parents, Dr. and Mrs. Watson, St. Patrick Street, Toronto.

Dr. J. Bryce McMurrich (Bothwell), spent some days in Toronto with his parents, Mr. and Mrs. McMurrich, of Madison avenue.

Dr. S. H. Westman sailed from New York, on the ss. Lucania, for England. He will take a special course in surgery in London.

Dr. S. J. Elkin, who has been practising at Emerson, Man., for the last ten years, has moved into Winnipeg to practice his profession.

Dr. Frank Mallory, of Harvard Medical school, claims to have discovered the germ of scarlet fever. It is similar in form to the malaria microbe.

Dr. Galloway, of Denver, Col., a former Ingersoll boy, has recently been appointed an alternate in surgery to St. Anthony's Hospital at that place.

Messrs. Hiram Walker & Sons, Walkerville, have sent a cheque for $10,000 to Mr. J. M. Courtney, treasurer for the Lady Minto Cottage Hospital Fund,

Dr. J. D. Page, of Waterloo, is in New York, taking a course in the treatment of diseases of the ear, eye and throat. He intends to locate at Quebec.

It is reported that Dr. J. O. Orr's mission to the Old Country is to make an attempt to secure the Crown jewels as an attraction for this year's exhibition in Toronto.

Dr. G. A. Berwick, Montreal, who was confined to bed for six weeks with a severe operation, has been removed from the General Hospital to his residence, and is now convalescent.

Dr. J. M. Stevens, formerly of Travers City, Mich., has entered into partnership with Dr. D. J. Sinclair, of Woodstock. Dr. and Mrs. Stevens have taken apartments at the Hotel Oxford.

The Mayor presented the City Clerk's official return of the vote on the question of Toronto contributing $50,000 to a consumption sanitarium. It was as follows:—Yes, 4,434; Nays, 4,031,

The many friends of Dr. Blanchard, of Winnipeg, will learn with much regret of the sudden death of his wife. She had lived in Winnipeg for over twenty years, and was very highly esteemed.

Dr. Pritchard, a former resident of St. John, Newfoundland, has been awarded much praise for his able work at Indian Harbor in controlling a severe epidemic of diphtheria which occurred there.

The marriage of Dr. R. D. Gurd, of Sarnia, to Miss Alice Thibaudeau, daughter of Hon. J. R. Thibaudeau, Sheriff of Montreal, was solemnized in the Archbishop's Palace there, on the 14th January.

Dr. Weld and Mrs. Weld and family have returned to Vancouver from the east. Mrs. Weld and children spent some months in Boston, where Dr. Weld went to meet them. They visited several cities en route home,

Dr. Charles Elliott, who is a Western University graduate, has been visiting his brother at Pond Mills, after taking a post-graduate course at the Chicago university. Dr. Elliott is now located near Vancouver.

Dr. Scott Conklin, formerly of Winnipeg, who has been practising his profession in Vancouver for the past few years, was married in that city last week in December, the bride being Miss Arnett, the lady superintendent of the hospital at Trail, B. C.

The residence of Mr. and Mrs. A. F. Murdock, MacGregor, Man., was the scene of a very pretty wedding on Wednesday, the 16th December, when their daughter, Pairline Lisle, was united in the bonds of matrimony to Dr. H. J. Johnston, of Coutts, Alberta.

Dr. Wm. H. A. Young, one of the best known physicians of Springfield, Mass., was shot through the heart by a bullet from his rifle, which he was placing in his carriage, previous to going hunting. The fatal accident was witnessed by his wife, and several friends who were visiting in the home.

One of the most stylish and interesting social events of the present winter came off in Port Perry, when, on the afternoon of January 7th, in the Church of the Ascension, Gertrude E., youngest daughter of Dr. J. H. Sangster, of "The Bungalow," was married to Dr. S. C. Corbett, of Winnipeg.

Dr. W. G. Anglin, of Kingston, while performing an amputation on a patient on account of a poisoned condition of the leg, contracted severe septic infection in his right hand. For some time his life was in great danger. The third finger of his right hand was removed. He is now recovering.

Dr. Bryce, secretary of the Provincial Board of Health, has been offered and will accept the position of Inspector of Immigration of the Interior, which has been offered to him by the Dominion Government. He will probably be succeeded by Dr. C. A. Hodgetts, who for some time past has efficiently discharged the duties of Provincial Health Inspector.

A judgment of vital importance to the Christian Scientists in Ontario was given recently by the full court of Appeal, including Chief Justice Moss, Justices Maclennan, Osler, Garrow and McLaren. The case was that of Rex. vs. Lewis, and has been before the courts for a long time.

A nine-year-old boy, Roy Lewis, died of diphtheria under Christian Science treatment, and the Crown instituted prosecution against the

father, John H. Lewis, on a charge of manslaughter. The case was brought before Chief Justice Falconbridge, and a conviction was rendered. The Crown intimated that it pleaded for a conviction on moral grounds only, so that no punishment followed the decision. From that decision the Scientists appealed, with the result that the conviction was affirmed. The chief point at issue in the case was whether the word " necessary " in the Act of the Criminal Code invoked, as applied to the attention and care that a parent or guardian is required to give his children, included medical attendance in cases of serious illness. The original conviction was made on the assumption that it did, and this view has been upheld unanimously by the Court of Appeal. The effect is that a parent who neglects to provide medical attendance for his family leaves himself open in case of a death occurring to a charge of manslaughter.

OBITUARY.

GEORGE COOKE, M.D.

Dr. George Cooke, one of the pioneer physicians of Bruce County, died at his late residence, 26 Leopold Street, Toronto, at noon, 31st December, 1903, after a somewhat protracted illness.

Dr. Cooke commenced the practice of medicine at Chesley over 35 years ago, and was well and favorably known throughout the district. He was reeve of the Village of Chesley for a number of years, and was also a coroner for the County of Bruce. Dr. Cooke had a large and lucrative practice, and amassed a fair competence. A few years ago he retired and removed to Toronto with his family.

The late Dr. Cooke was born at Cookstown, Simcoe County, where his brother, Major Cooke, still resides. He leaves a widow, three sons, Frank C., a barrister, of Pinkerton and Cooke; Charles, a practising dentist, Parkdale, and Harry, a law student, and two daughters, who reside at home. The remains were interred at Chesley.

THOMAS NORTON, M.D.

Dr. Thomas Norton, one of the most widely known physicians in and around Shelburne, died 14th January, 1904, after a lingering illness, due to cancer of the stomach. He was born in Montreal 52 years ago, and in 1874 graduated in medicine from McGill. He began the practice of his profession at Horning's Mills, but, later, moved to Shelburne. At one time he was president of the Turf Association and of the 36th Battalion Band. He was coroner for the Counties of Dufferin and Grey, and surgeon to the Canadian Pacific Railway. A widow survives him.

J. B. MURPHY.

Dr. J. B. Murphy, superintendent of the Brockville Asylum for the Insane, died suddenly at his home, 17th January, from heart disease. He attended services in St. Francois Xavier Church, and walked part way home, being driven the remainder of the distance. He made no complaint of feeling ill until after getting into the house. Upon removing his clothing he lay down upon a couch expiring almost instantly. Mrs. Murphy, who attended church with him, did not get back in time to see him alive.

Dr. Murphy was known to have a weak heart, but nothing of a serious nature was ever anticipated.

Deceased was born at Asphodel, Peterborough County, in 1850. He was educated at the Norwood High School and St. Michael's College, Toronto, and afterwards attended Queen's College where he graduated in medicine in 1876. He practised his profession in Belleville till 1891, when was he appointed medical superintendent of the Mimico Asylum for the Insane. Upon the opening of the Brockville Asylum in 1894, he was placed in charge, and held the position till his death. While a resident of Belleville he was physician to the Deaf and Dumb Institute. He married a daughter of the late L. C. Boulseter, of Toronto, who with a family of four sons and two daughters, survives.

OWEN BROWN, B.A., M.D.

The medical profession in Detroit lost a valued member by the death of Dr. Owen C. Brown, on 29th December, 1903. Dr. Brown attended Toronto University, from which he graduated with honors in both arts and medicine. He began the practice of medicine in Acton, Que., where he resided for 14 years, during that time being one of the district surgeons of the Grand Trunk Railway. In 1893 Dr. Brown settled in Detroit, where he has since resided. He is survived by a widow and one son.

D. S. BOWLBY, M.D.

Dr. D. S. Bowlby, of Berlin, died on Sunday, 29th December, 1903, at Rome, Italy. He had not been well for some weeks, and left New York on December 16th for Sicily, in company with Mrs Bowlby. The news of his death came by cable. Dr. Bowlby, who was in his 78th year, located in Berlin in 1853, and rapidly acquired a large and extensive practice. When Berlin was a small villiage he identified himself with municipal life, and served in the council from 1957 to 1862. For many years he was a member of the Berlin Public School Board, and after-

wards of the High School Board, of which he was chairman for over twelve years. He was the first president of the Berlin Club, and at the time of his death was president of the Berlin branch of the Upper Canada Bible Society.

In 1882 he contested the riding against the late Hugo Kranz, but was defeated by a very small majority. He was jail surgeon for over twenty years. In religion he was an Anglican, and was the oldest member of St. John the Evangelist Church of the town. His is the first death in the Bowlby family, and he is survived by four brothers and one sister, viz.: William Bowlby, of Simcoe; Dr. Alfred Bowlby, of Waterford; Ward P. Bowlby, K.C., of Berlin; Ald. J. W. Bowlby, K.C., of Brantford, and Mrs. Walker Powell, of Ottawa. Besides the widow, who is the youngest daughter of the late Alex. A. Murphy, of Montreal, the deceased is survived by four children, viz.: Mrs. E. P. Clement, Dr. G. Herbert Bowlby, who is studying medicine in London, Eng.; Mrs. J. P. Fennell and D. Shannon Bowlby, Wapalla, N.W.T. Another daughter, Mrs. Gardiner Boyd, of Toronto, predeceased him. The body was brought to Berlin for burial.

R. McINTYRE, M.D.

Death came suddenly on the afternoon of January 4th, to Dr. R. McIntyre, Hespeler's oldest medical practitioner, in his 67th year. Dr. McIntyre had been summoned to attend a patient. He had hardly looked at the patient when he staggered forward to a sofa and instantly expired, death being due to heart failure.

Two hours later the polls announced that the dead physician had been re-elected a Public School Trustee, which office he had filled for seventeen years. Deceased was born in Lachute, Que., where he attended Public School. In 1857 he matriculated at the Berlin Grammar School, after which he entered the medical department of Victoria University, from which he graduated after a brilliant career in 1862. He commenced practice in Hespeler in 1863, and built up a large practice in the town and surrounding country. Deceased had been Medical Health Officer for thirty years, and had always taken a prominent part in the educational interests of the town. The doctor was connected with the old 29th Battalion for twenty years.

During the funeral, business was suspended, the Public School closed, and flags flew at half-mast out of respect for the late doctor who died while making a call on a patient. The interment took place with military honors, and was very largely attended. The Council and

School Board attended in a body, and the pall-bearers were officers of the 29th Regiment, from Galt, Guelph, and Hespeler. Canon Redley, of Galt, chaplain of the 29th Regiment, with Revs. Jamieson and Duthie, conducted the funeral services.

FRED. H. S. AMES, M.B., TOR., M.D.C.M, VIC

Dr. Ames died at Denver, Colorado, 4th January, after a somewhat protracted illness. He leaves a widow, formerly Miss Ida Taylor, of Parkhill, one son and two daughters. Dr. Ames was born at Sarnia, forty-five years ago. He was a graduate of Toronto and Victoria Universities, and practiced medicine at Brigden, then at Sarnia, removing to Denver about ten years ago. The remains were interred at Sarnia, where the funeral took place on 9th January.

BOOK REVIEWS.

DAVENPORT'S GYNECOLOGY.

A Manual of Gynecology for the use of Students and General Practitioners. By F. H. Davenport, A.B., M.D., Assistant Professor in Gynecology, Harvard Medical School. New (4th) edition, revised and enlarged in one 12mo volume of 402 pages, with 154 illustrations. Cloth, $1.75, net, Lea Brothers & Co , Publishers, Philadelphia and New York, 1902.

This compact volume was originally prepared for a two-fold object; first to give to the student in clear terms and with sufficient detail the best methods for examination, and the most trustworthy therapeutics of the more frequently met diseases of the female pelvic organs, and second to assist the general practitioner in understanding and successfully treating the gynecological cases which he meets in his every-day practice. For the sake of brevity and clearness the author describes only such treatment as in his large experience has proved to be of the greatest practical value. Special attention has been paid to many minor points which, although of great importance, have strangely enough been omitted from the larger treatises on the subject. Maximum practicality has been the aim of the author, and the demand which has rendered necessary the printing of four large editions shows clearly the esteem in which his work is held by the profession. The volume has again been carefully revised to the latest date. Considerable new matter has been added, as well as several new illustrations, but no advance has been made in its very moderate price.

PROGRESSIVE MEDICINE.

A quarterly Digest of Advances, Discoveries, and Improvements in the Medical and Surgical Sciences. Edited by Hobart A. Hare, M.D., assisted by H. R. M. Landis, M.D. Vol. IV. December, 1903. Diseases of the Digestive Tract and Allied Organs: Liver, Pancreas, and Peritoneum—Anæsthetics, Fractures, Dislocations, Amputations, Surgery of the Extremities, and Orthopedies—Genito-Urinary Diseases—Diseases of the Kidneys—Physiology—Hygiene, Practical Therapeutic Referendum. Lea Brothers & Co. Philadelphia and New York. Price, $2.50.

The present volume keeps up the high reputation of this excellent series. The contributors to this volume are Drs. John C. Hemmeter, Joseph C. Bloodgood, William T. Belfield, John Rose Bradford, Albert P. Brubaker, Charles Harrington, and H. R. M. Landis. These names are sufficient guarantee for the standard of the various sections. The present volume is a trustworthy review of the medical literature of the subjects discussed in it. These subjects are diseases of the digestive tract, anæsthetics, the surgery of the extremities, genito-urinary diseases, diseases of the kidneys, physiology, hygiene, and practical therapeutics. The series form an excellent reference library.

THE LYMPHATICS.

The General Anatomy ot the Lymphatics by G. Delamere. The Special Study of the Lymphatics in Different Parts of the Body by P. Poirier, Professor of Anatomy in The Faculty of Medicine, Paris, and B. Cunéo, Associate Professor in The Faculty of Medicine, Paris. Authorized Translation by Cecil H. Leaf, M. A., M. B., F. R. C. S. assistant Surgeon to the Cancer Hospital, and to the Gordon Hospital for Rectal Diseases, London. With, 117 Illustrations and Diagrams. Chicago: W. T. Keener & Co. 1904. Price $5.00 net.

Looking at the lymphatic system as one sees it described in the ordinary text-book of anatomy, it scarcely occurs to the mind to regard it as of such vast importance as it at once assumes when treated of in a separate work such as the one before us from the joint authorship of Poirer, Cunèo, and Delamere. The illustrations are very well executed, and enhance the value of the work very materially. The translation is well done and Mr. Cecil H. Leaf merits praise for his share n rendering the original into such idiomatic and clear English. Some books we read against our wishes, some we cannot read at all, and some we cannot help reading. To the last class belongs this volume. It is such interesting reading that one soon forgets that he is studying anatomy and reads on. The book gives an excellent exposition of the spread of disease by means of the lymphatics, and the great importance of the lymphatic circulation in the pathology and etiology of disease. It is an exceedingly interesting addition to anatomical literature.

LEVINGS ON TUMORS.

The Aetiology, Pathology, Diagnosis, and Treatment of Tumors. By A. Hamilton Levings, M.D., Milwaukee, Wis., Professor of the Principles and Practice of Surgery and Clinical Surgery in the Wisconsin College of Physicians and Surgeons ; Surgeon to St. Joseph's, Milwaukee County, and Mount Sinai Hospitals ; Consulting Surgeon to Johnson's Emergency Hospital and the Milwaukee County Hospital for the Acute and Chronic Insane. Cleveland Press, Chicago, 1903 : Chandler & Massey, Toronto, Price, $5.00.

This is a large octavo volume of 835 pages. Every pages bears the evidence of careful preparation. As the title of the work states it takes up the etiology, pathology, diagnosis, and treatment of tumors. The work from each of these view-points is very full and complete. The operative work for the removal of tumors is gone into with every detail, and the best methods described clearly. To every physician in active practice, this work would prove useful and interesting. To the surgeon it will be specially helpful. Of the many works on the subject of tumors, malignant and benign, we regard this as the most thorough and exhaustive with which we are acquainted. The author deserves much praise from the profession for his efforts in bringing so much use ful information together upon the subject of tumors. We trust the work will create an interest in this important branch of surgery.

ATLAS OF THE EXTERNAL DISEASES OF THE EYE.

A brief treatise on the pathology and treatment by Prof. Dr. O. Haab of Zurich. Authorized translation from the German second edition, revised, edited by G. E. De Schwinitz, A.M. M.D., with 98 colored lithographic illustrations on 48 plates, Philadelphia, New York, London. W. B. Saunders & Co. Toronto, J. A. Carveth & Co. $3.00.

This small but compact book is the result of an attempt to illustrate in colors the most common external diseases of the eye and to give a thorough description of the various methods of examining an eye case. A mere glance at any one plate will convince any one how accurately has the work been accomplished. The various methods of examining an eye, what to look for and where to find it, is told in very simple and clear language. We know of no other book containing such a clear exposition of this most necessary feature of eye work. The illustrations, each accompanied with a short clinical history gives a wonderfully accurate idea of nearly all external eye diseases. General practitioners who have not the time to spend in large eye clinics and who are every day seeing some eye cases will find the book invaluable, and he will derive more help from it than probably any book he might select. Dr. De Schwinitz says in his preface that " perhaps it is not too much to say that while one is reading this manual he distinctly feels that he is in the atmosphere of a large clinic." We cannot find words that more correctly convey our own impressions. We believe this to be the most useful and practical eye work any general practitioner can select. The publishers have done their work excellently.

SIMON'S CLINICAL DIAGNOSIS.

A Manual of Clinical Diagnosis by means of Microscopical and Chemical Methods for Students, Hospital Physicians and Practitioners. By Charles E. Simon, M.D., author of Simon's Physiological Chemistry, etc. New (4th) edition, thoroughly revised and enlarged. In one handsome octavo volume of 608 pages, illustrated with 139 engravings and 19 plates in colors. Cloth, $3.75 net. Lea Brothers & Co., Philadelphia and New York; 1902.

The growing demand for this work must be construed as evidence of the esteem in which it is held as a plain and straightforward guide to those methods which at once facilitate and simplify the only certain path to success in practice, namely, accurate diagnosis.

The research which is constantly extending this field of knowledge is also simplifying it so that the equipment for laboratory investigation is practicable in every office. With these methods at his command the obligation to use them becomes binding upon the physician both legally and morally. The physician can readily acquire a working knowledge of precise diagnosis and the student finds it included in the curricula of a rapidly increasing number of colleges. It has evidently been the earnest endeavor of the author to adapt this book to the needs of undergraduates and practitioners alike. It states the best methods clearly and simply with all necessary instructions in careful detail.

The present edition shows revision from cover to cover, notwithstanding the short time that has elapsed since the issue of its predecessor. Every effort has been made to render the book as modern and as practical as possible. The author has supplied abundant references to the literature of the subject. This will be valued by those who wish to proceed further with the study of the subject.

INTERNATIONAL CLINICS.

A quarterly of illustrated clinical lectures, and especially prepared original articles on treatment, medicine, surgery, neurology, pediatrics, obstetrics, gynecology, orthopedics, pathology, dermotology, ophthalmology, otolgy, rhinology, larnygology, hygiene and other topics of interest to students and practitioners. Edited by A. O. J. Kelly, A. M., M. D. Philadelphia, with the collaboration of Drs. Osler, Neuser, Stewart, Murphy, McPhedran, Rotch, Clark, Walsh, Ballantyne, Harold, Laudolt and Kretz. Vol. III., thirteenth series. Philadelphia ; J. B. Lippincott Company. Montreal : Charles Roberts, 1524 Ontario st., price $2.00

This volume contains six articles on diseases of the gall bladder and gall-ducts ; four articles on medicine ; and six articles on surgery. There are five handsome colored plates, five plain plates, and twelve other figures throughout the text. The volume is a very interesting one, and will well repay a careful perusal. We can speak in the highest terms of the International Clinics.

TYSON'S PRACTICE OF MEDICINE.

The Practice of Medicine. A Text-Book for Practitioners and Students with special reference to Diagnosis and Treatment. By James Tyson, M. D., Professor of Medicine in the University of Pennsylvania and Physician to the Hospital of the University; Physician to the Pennsylvania Hospital ; Fellow of the College of Physicians of Philadelphia ; Member of the Association of American Physicians, etc. Third Edition thoroughly revised and in parts rewritten, with 134 Illustrations including colored plates. Philadelphia : P. Blakiston's, Sons & Co. Toronto : Messrs. Chandler and Massey. Price, Cloth, $5.50; Leather, $6.50.

The first edition of Tyson's Practice appeared in 1896, and, in the short space of seven years, a third edition has been called for. The present edition reflects great credit upon both author and publishers. The work is a large octavo one. The publishers have selected a specially fine paper of light weight, and have, by this means, given the profession a volume of 1240 pages without being too thick and heavy. The classification adopted is simple, natural, and effective for the author's purpose. One would expect a practical work from a person of Dr. Tyson's long experience as a teacher ; and this is what his " Practice of Medicine " is in a preëminent degree. The various diseases are discussed under the heads of etiology, symptoms, course, treatment and termination. Dr. Tyson is a firm believer in what a wise physician can do for his patients. He is therefore an optimist, and it is encouraging and stimulating to read his " Practice." It is a wholesome sign of the progress of therapeutics to note that the author gives such a prominent place to the natural methods of treating disease, as food, air, rest, exercise, hygiene, and a less prominent position to the merely drug treatment. The present edition is bound to command a large sale, and equally sure to give complete satisfaction to its readers.

EDGAR'S PRACTICE OF OBSTETRICS.

The Practice of obstetrics designed for the use of Students and Practitioners of Medicine. By J. Clifton Edgar, Professor of Obstetrics and Clinical Midwifery in the Cornell University Medical College, Attending obstetrician to the New York Maternity Hospital. With 1221 illustrations, many of which are printed in colors. Philadelphia : P. Blakiston's Son & Co. Toronto : Messrs. Chandler and Massey. Price, cloth, $6.00. Leather, $7.00. 1903.

The work before us is a large imperial octavo volume of 1,111 pages. The author has long been known as a lucid writer on the subjects which he has taught so well for many years. The work is divided into ten parts : The Physiology of the Female Genital Organs, Physiological Pregnancy, Pathological Pregnancy, Physiological Labor, Pathological Labor, Physiological Puerperium, Pathological Puerperium, the

Physiology of the Newly Born, the Pathology of the Newly Born, and Obstetric Surgery. This is a complete and natural classification. Under each of these heads, the author gives the fullest and the most recent views upon the subjects discussed. Much of the work is based upon the author's own experience, some 2,200 cases. The question of asepsis is taken up and treated in a most thorough manner. There is an unusually full and interesting section of the book on the topic of the deformities and monstrosities of the fœtus. It is really impossible to review in detail so large and exhaustive a treatise. In every respect it reflects the highest credit upon the author and publishers. To say that it is as thorough and reliable as it is exhaustive is to say much less for the work than could be said. No one will ever regret the purchase of this work: for it is a masterpece.

CLINICAL EXAMINATION OF THE URINE AND URINARY DIAGNOSIS.

Second Edition, Thoroughly Revised.

Clinical Examination of the Urine and Urinary Diagnosis. A Clinical Guide for the use of Practitioners and Students of Medicine and Surgery. By J. Bergen Ogden, M. D., formerly Instructor in Chemistry, Harvard University Medical School, Boston; Assistant in Clinical Pathology, Boston City Hospital, etc. *Second Revised Edition.* Handsome octavo volume of 418 pages, illustrated, including 11 plates, 9 of them in colors. Philadelphia, New York, London: W. B. Saunders & Company, 1903. Cloth $3.00 net. Toronto: J. A. Carveth & Co.

The aim of this work is to present in as concise a manner as possible the chemistry of the urine in its relation to physiologic processes; the most approved working methods, both qualitative and quantitive; the diagnosis of diseases and disturbances of the kidneys and urinary processes. It is a work eminently in demand, since most of the books on the urine are devoted exclusively to urinary chemistry, a knowledge of urinary diagnosis being obtainable only by an extended search through works on medicine, surgery, pathology, and chemistry.

In this, the second edition, special effort has evidentally been directed toward making the tests complete and bringing it absolutely down to the present day advances in the subject. Important changes have been made in Part I, especially in connection with the determination of Urea Uric Acid, and Total Nitrogen; and the subjects of Cryoscopy and Beta-Oxybutyric Acid have been given a place. The changes in Part II, while not so extensive, are nevertheless numerous and practical, and show that the author has spared neither pains nor time in making the revision thorough. It is a good book, and both students and practitioner will find it a valuable aid in their clinical work. We recommend it.

MONTGOMERY'S PRACTICAL GYNAECOLOGY.

Practical Gynaecology, a Comprehensive Text-Book for Students and Physicians. By E. E. Montgomery, M.D., LL.D., Professor of Gynaecology, Jefferson Medical College; Gynaecologist to the Jefferson Medical College and St. Joseph's Hospital; Consulting Gynaecologist to the Philadelphia Lying-in-Charity and the Kensington Hospital for Women. Second Edition. Revised, with 539 illustrations, the greater number of which have been drawn and engraved specially for this work, for the most part from original sources. Philadelphia: P. Blakiston's Son & Co. Toronto: Messrs. Chandler and Massey. Price, Cloth, $5.00 net. 1903.

The first edition of this excellent work on practical gynaecology appeared in 1900. Many improvements have been made in the present second edition. The author is a well known writer and teacher. An examination of the book shows its very practical character. Padding is carefully avoided. The descriptions of operations are very clear, and the illustrations are of the best, and aid the reader in gaining a thorough knowledge of the author's plans of operation, examination and treatment. The Latin adage, *cave hominem unius libri*, would be particularly applicable to him who had mastered Professor's Montgomery's book. It is well printed, bound, written and illustrated, and contains a great fund of information.

THE AMERICAN POCKET MEDICAL DICTIONARY.

Fourth Revised Edition, Greatly Enlarged.

The American Pocket Medical Dictionary. Edited by W. A. Newman Dorland, M. D., Assistant Obstetrician to the Hospital of the University of Pennsylvania. Containing the pronunciation and definition of the principal words used in medicine and kindred sciences, with 566 pages and 64 extensive tables. Philadelphia, New York, London; W. B. Saunders & Company, 1903. Flexible leather, with gold edges, $1.00 net: with thumb index, $1.25 net. J. A. Carveth & Co., Toronto

In this little work, now in its fourth edition, we have a pocket dictionary equaled by none on the market. It is a wonder to us how the editor has got so much information in such a small space. In this edition several thousand of the newest terms that have appeared in recent medical literature have been added, and the entire work subjected to a careful revision. Since the work has come to us for review, we have had many occasions to refer to it for definitions of new words, and in no instance have we been disappointed. We believe that the work in its new form will meet more fully than ever a real demand on the part of physicians and students.

A TEXT-BOOK OF OBSTETRICS.

A Text-book of Obstetrics. By J. Clarence Webster, M.D. (Eddin), F. R. C. P. E. F. R. S. E., Profetsor of Obstetrics and Gynecology, Rush Medical College, in Affiliation with the University of Chicago; Obstetrician and Gynecologist to the Presbyterian Hospital, Chicago; Obstetrician to the Chicago Lying-in-Hospital and Dispensary, Chicago, etc., etc. Handsome octavo volume of 767 pages, with 383 illustrations, 23 in colors. Philadelphia, New York, London: W. B. Saunders & Company, 1903. Cloth, $5.00 net; Sheep or Half Morocco, $6.00 net. J. A. Carveth Co., Canadian Agen

This work has been written for the student of obstetrics, as well as for the active practitioner. The anatomic changes accompanying pregnancy, labor, and the puerperium are described more fully and lucidly than in any other text-book we have seen. The exposition of these sections is based mainly upon studies of frozen specimens, in which department the author has had a larger experience than any other worker. Unusual consideration is given to embryologic and physiologic data of importance in their relation to obstetrics. The practical aspects of the subject are presented in such a manner as to be of direct assistance to the clinician. Diagnosis and treatment are presented with rare exactitude and clearness, particular consideration being given to those methods that have proved most successful by experience. The illustrative feature of the work is far above the average. Evidently, great care was taken in the selection o the illustrations, aiming to meet the varied requirements of both the undergraduate and the practising physician. Many of the illustrations are entirely original, having been made especially for this work, and never having appeared in any other text-book. The work throughout expresses the most advanced thought of the day, and the statements can be relied upon as accurate. We heartily recommend Dr. Webster's book to student and practitioner.

Adeno-Myoma of the Uterus. By Thomas S. Cullen, M.D., Associate Professor of Gynæcology in the Johns Hopkins University, and assistant Gynæcologist, Johns Hopkins Hospital, Baltimore, M.D. With 45 illustrations in the text. Berlin, 1903 : August Hirschwald.

The assistants, scholars, and friends of Dr. Johannes Orth, celebrated his 25th year as professor in Göttingen, by contributing a number of papers, as a festchrift, in his honor. The contribution of Dr. Cullen makes a large octavo monograph of 90 pages. The edition before us is in German, is well illustrated and printed on very fine paper. The subject is divided into the three headings of adenomyoma with the proportionate preservation of the normal shape of the uterus, subperitoneal or intraligamentous adenomyoma, and submucous adenomyoma. The treatment of the subject throughout is of a very thorough and judicial character. The essay reflects great credit upon the author.

CLINICAL PATHOLOGY OF THE BLOOD.

A treatise on the general principles and special applications of Hematology. By James Ewing, A.M., M.D., Professor of Pathology in Cornell University Medical College, New York City. Second Edition revised and enlarged. Illustrated with forty-three engravings and eighteen colored plates drawn by the author. Lea Brothers Co., New York and Philadephia. Cloth. / $3.50.

The appearance of this edition of Professor Ewing's work following the first at an interval of but two years is an evidence of the excellence thereof, and of the fact that it supplies a very well marked demand, as pointed out at the time of the appearance of the edition, of 1901. This work is more extensive than the ordinary treatises on clinical subjects and contains in a volume of moderate size, a very complete imposition of the theoretical and practical aspects of hematology, but besides this, on controversial points and they are many, the various opinions of different investigators are given and the reader is left to form his conclusion. One might venture a suggestion that from the standpoint of the man who is not a laboratory specialist, this impartial holding of the scales leaves one in the dark as to what to think especially as the value of an opinion which depends on the standing of the exponent of it and these are frequently forcing scholars whose attainments are unknown.

Among the additions since the last issue are those in the chapter on technics, the serum test for the blood, and the subject of crioscopy. A very full description of the serum test for the detection of blood is given (pp. 24-28), but it is pointed out that the limitations of the test make it only of indifferent value in those cases where it is most needed *i. e.* where the stains are old, impure, or scanty. Dare's hemoglobinometer is described and the writer considers it offers the best combination of convenience and accuracy, (p. 5,).

Crioscopy is the study of the character of fluids by the dermination of their freezing points; the presence of elements in solution in a fluid increases the osenatic tension of the fluid and lowers its freezing point in accordance with invariable physical laws. The freezing point of normal blood is 56° lower than that of water indicated $\Delta = 0.56°$, in uncompensated heart disease it may be 0.67°, in nephritis it may be as low as 0.71°. Beckmann has contrived an apparatus for the estimation of Δ which is described and illustrated. The author gives his support to Elerlach's classification of leucocytes according to the chemical composition of their contents and points out that notwithstanding the evidence of possible variations, the significance of the granules has been definitely determined, (p. 127). The side-chain theory of Ehrlich is given a concise and lucid exposition (pp. 141-147). After discussing the widely

varying views advanced on the question of the origin of the blood-cells the conclusion is "To summarize the work in this field, it may be said that we do not know certainly whether any common cell of origin of red and white corpuscles exists in the embryo or adult, or whether these corpuscles are derived from completely separate series. The late contributions favor the existence of a common mother cell both for groups persisting at least into late embryonal life," (p. 179).

Part II. deals with the special pathology of the blood, excellent original plates being given of the appearance of the blood in various anemias.

Part III. is devoted to acute infectious diseases the general conclusions being: (1) Decrease or relative increase in the preparation of red cells, but ending always in a loss in their total numbers, must be accepted as accompanying all cases of pyrexia, although requiring some time to become clearly apparent; (2) Coagulability varies in different stages of febrile diseases, but is not clearly connected with pyrexia as such; (3) The progressive loss of albumen in the blood is probably essentially connected with the febrile process, but occurs in increased degree when the fever is of infectious origin; (4) Febrile hydraemia is an accidental condition which may or may not occur as a result of the loss of albumens of the blood. Diminished resistance of red cells occurs in the majority of fevers, and depends on a variety of factors. Variations in alkalinity are frequent and considerable in fever, but are not proportional either to the height of temperature or to the toxic condition of the blood," (p. 280). The writer claims that the presence in the blood of the pneumoccoccus in pneumonia is rare except in fatal cases.

Part V. is devoted to general visceral diseases and Part VI. to animal parasites. The treatment of malaria is extremely full and interesting, the development of the parasite in the mosquito and the conjugation is described and the evidence of the existence of three varieties of full-grown tertian parasites as verified by Argutinsky, detailed, (pp. 431-464). A short appendix on contributions during the time of going to press, brings the subject fully up to date. To each chapter is appended a very full bibliography.

On the whole this work is one of solid merit and will be found of the greatest value to all those interested in blood work; the excellence of the binding, type and plates make the volume a handsome as well as valuable addition to any medical or scientfic library.

A POCKET DICTIONARY OF HYGIENE.

By C. T. Kingzett, F.I.C., Author of "Animal Chemistry," "Nature's Hygiene," and D. Homfray, B.Sc. Second Edition. London : Bailliere, Tindall & Co., 8 Henrietta Street, Covent Garden. Price, cloth, 2s. 6d.

This is an excellent little pocket manual. It is got up on the alphabetic arrangement of subjects. The type is small but clear, and the paper good. The little book contains a great deal of very useful information on hygiene, sanitary science, and allied topics. We believe that the book will give satisfaction to its readers.

THE JOHNS HOPKINS HOSPITAL REPORTS.

This report is volume XI. of the series. It contains papers on Pneumothorax, by Charles P. Emerson, A.B., M.D.; Clinical Observations on Blood Pressure, by Drs. Cook and Briggs; and the Value of Tuberculin Test in Surgical Diagnosis, by Martin B. Tinker, M.D. The volume contains 555 pages of carefully prepared matter. The treatise on pneumothorax is very exhaustive, and will be of much help to those studying this important subject.

BABCOCK ON DISEASES OF THE HEART.

Diseases of the Heart and Arterial System, designed to be a practical presentation of the subject for the use of students and practitioners of medicine. By Robert H. Babcock, A. M. M. D. Professor of Clinical Medicine and Diseases of the Chest, College of Physicians and Surgeons, Medical Department of the Illinois State University, Chicago; Attending Physician to Cook County Hospital and Cook County Hospital for Consumptives; Consulting Physician to Mary Thompson Hospital, Hospital of St. Anthony de Padua, and the Marion-Sims Sanitorium; Fellow and Former President of the American Clinatological Association; Member of the American Medical Association, etc. New York and London : D. Appleton and Company. Toronto : Messrs Morang & Co. Price, cloth, $6.00.

The author first takes up the anatomy, physiology, and examination of the heart. He devotes 36 pages to this section, and gives a very clear exposition of the signs of cardiac disease. He then takes up the diseases under those of the pericardium, the endocardium, the myocardium, cardiac neurosis, and diseases of the arterial system. The portion of the book dealing with valvular diseases is particularly clear and strong. The chapters on the diseases of the arterial system are also of a very interesting and suggestive character. The treatment is well thought out and of the most approved character. Throughout, the book is bristling with excellent suggestions on treatment. A pleasing feature of the work is that the author pays so much attention to the constitutional causes of cardiac and vascular diseases. The volume is well illustrated and is a fine sample of the bookmaker's best work. We can speak in the very highest terms of praise of Dr. Babcock's treatise on the heart and blood vessels.

DISEASES OF THE SKIN.

An outline of the principles and practice of dermatology by Malcolm Morris, consulting surgeon to the skin department, St. Mary's Hospital, London ; corresponding member of the K. K. Gesellschaft der Aertze in Wien ; honorary member of W ener er_ matologische Gesellschaft ; and the société Française de dermatologie. With 2 colored plates and 58 plain figures. New edition. Chicago : W. T, Keener & Co. Price $2.00 1903.

There are very few who take any interest in dermatology who do not know of Mr. Morris's " Diseases of the Skin." It contains the mature teaching of a very experienced dermatologist. This is one of those books that is a real *multum in parvo.* It is not saying too much to state that this is one of the most satisfactory books on skin diseases in the English language. It is handsomely got up.

ELEMENTS OF SURGICAL DIAGNOSIS.

By A. Pearce Gould, F.R.C.S., Eng. ; M. S., Lond., Surgeon to the Middlesex Hospital, Member of the Council of the Royal College of Surgeons of England, and of the Examining Board of England, Member of the Senate of the University of London. Third edition. Revised and enlarged. Chicago : W. T. Keener & Co., 1903. Price, Cloth, $2.

It is many years since Mr. Pearce Gould gave to the profession the first edition of his " Surgical Diagnosis." The book is now in its third edition, enlarged and carefully revised up to date. Mr. Gould is a surgeon of very wide reading and experience, so that what he has to say upon a surgical subject will be listened to with much attention. On many occasions in the past we have referred to Gould's " Surgical Diagnosis " with much satisfaction, and can recommend it to both practitioners and students. The book is got up in excellent style..

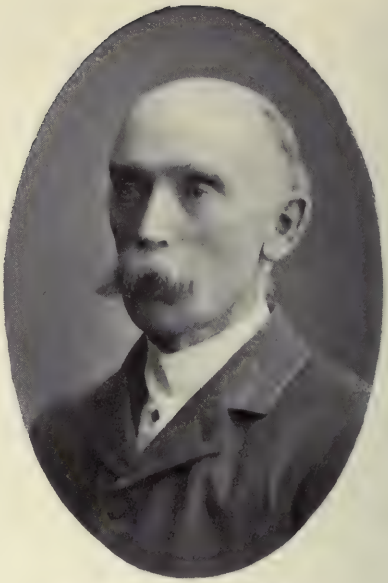
THE PRACTICAL CARE OF THE BABY.

By Theron Wendell Kilmer, M.D , Associate Professor of Diseases in Children in the New York School of Clinical Medicine ; Assistant Physician to the Out-Patient Department of the Babies' Hospital, New York ; Attending Physician to the Children's Department of the West Side German Dispensary, New York. 12mo. Pages xiv-158, with 68 illustrations. Extra Cloth, $1.00, net, delivered. Philadelphia : F. A, Davis Company, 1914-16 Cherry Street, Philadelphia.

We have had much pleasure in reviewing this little book. It is full of sound advice, and is written in an attractive manner. The illustrations are good, and the paper, printing and binding are all that could be desired by the most exacting. We can recommend this book to our readers. It would be a first-class book for physicians to advise for mothers' use.

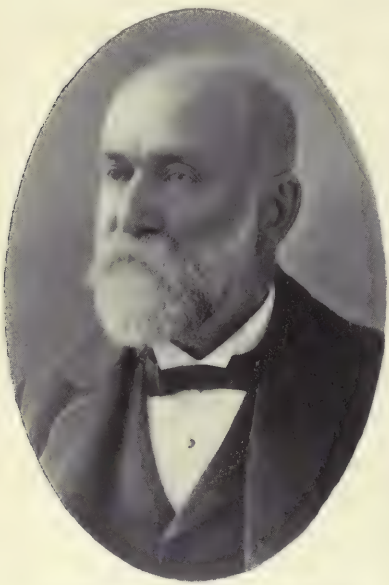
C. A HODGETTS, M.D . C M., L.R.C.P., LOND.,

Secretary of the Ontario Provincial Board of Health.



P. H. BRYCE, M.A., M.D.,

Inspector of Immigration for Canada, lately Secretary to the Ontario Board of Health and Deputy Registrar-General for Ontario.



THE LATE D. S. BOWLBY, M.D.,

Berlin, Ontario.

THE LATE J. B. MURPHY, M.D.,

Medical Superintendent of the Asylum for the Insane, Brockville, Ont.

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ULTRAMICROSCOPIC ORGANISMS.

By J. J. MACKENZIE, B.A., M.B.,
Professor of Pathology, University of Toronto.

WITH the discovery of bacteria and the demonstration of their form and dimensions by the older bacteriologists, the question very early arose as to whether, with the recognition of these minute forms of life we had reached the limits of size of organized beings or whether there were not smaller organisms yet which we had not seen or could not see because of their minuteness. This question became the more pressing, the more we sought in vain for the organisms which caused such diseases as scarlet fever, measles, small pox, rabies and many other forms of infection; and the idea was frequently expressed that there must be forms of life smaller than the smallest known bacteria, so small in fact, that they probably were beyond the range of microscopic vision, and that on this account we have failed to find the parasites of these diseases. In regard to bacteria a striking fact may be noted in the remarkable uniformity of size of the various members of the group. They vary, it is true, enormously in the length of their cells or cell complexes, but in regard to the thickness of the cell or the diameter of globular forms, individual members of the group vary very slightly from an average of 1·0 micron to 1·5 microns. If we take one of the largest as an example, called on account of its size *bacillus megatherium*, we find that its width does not exceed 2·5 microns, whilst the smallest of the disease producing forms the bacillus which causes epidemic influenza, has a length of 1·2 microns and a width of 0 4 micron. Recently Erwin von Esmarch has described a putrifactive spirillum from water which is 1-3 microns long and 0·1-0·3 micron wide, the smallest of the bacteria which has ever been cultivated.

The possibility of demonstrating the existence of organisms which are too small to see with the strongest microscope would seem to be a difficult problem, and so it is, and we consequently cannot proceed to the demonstration by ordinary methods of bacteriological research. It has been necessary to adopt certain, what might be called extraordinary methods to give evidence of their existence.

Fortunately for the success of the demonstration, those which have so far been discovered are all parasitic and consequently experiments can be made by animal inoculation and the presence of the hypothetical parasites demonstrated by the disease produced in the animal. In addition to this, however, we have in the laboratories, filters which can successfully filter out the vast majority of known bacteria and which have been used regularly for this purpose for many years. These filters are all of the same type, in that they have pores so small that bacteria cannot be washed through them. The first to be manufactured consisted of an unglazed porcelain and was called the Pasteur-Chamberland filter, but there are now a number of different forms such as the Berkefeld which consists of compressed infusorial earth, and which are equally successful. The impermiability of a Pasteur-Chamberland or a Berkefeld filter to bacteria is due to the fact that the minute passages or pores are not only small but tortuous and consequently the first organisms which pass on to the surface or into the mouths of the pores are caught and form a film which assists in rendering the filters even more effective. On the other hand it has been shown that many bacteria which cannot be driven through these filters by pressure can grow through their walls if given time and especially if they have the power of independant motion. The effectiveness of the filter is therefore due to the thickness of the walls and the tortuosity of the passages as well as to their minuteness.

An organism which could pass readily through such a filter would probably be of ultra microscopic size and it has consequently been by a combination of the method of animal moculation and filtration through such a filter that these organisms have been discovered.

Practically the first knowledge which we have of such minute living creatures resulted from the work of Lœffler and Frosch upon foot and mouth disease. These investigators undertook for the German Government a study of this disease which is a serious menace to the stock raising industry of various parts of the world and has for the human race the additional interest in that it is communicable to man.

In this disease, the characteristic feature is the presence of small vesicles or blebs upon the mucous membrane of the mouth and lips, and also about the hoofs of the forefeet. The eruption of vesicles is accompanied by more or less constitutional evidence of disease. The disease is exceedingly contagious, sweeping through a herd or from herd to herd with great rapidity. The vesicles on puncture yield a small amount of clear serous fluid and Lœffler and his colleague found that the contagion, whatever it was, was present in this serum. Micro-

scopic examination of this fluid did not show anything which could be interpreted as a living organism although a minute quantity of it was sufficient to infect another animal. They therefore assumed that it was probably ultra microscopic and endeavored to see if it would pass through the pores of a Pasteur filter. Their results showed that the fluid is equally contagious after passing through the filter and they therefore concluded that it was smaller than any known organism.

The objection might have been raised to their interpretation of these results, that they were dealing with an excessively virulent soluble poison. To meet this objection they proceeded as follows. They found that the minimum infecting dose of the fluid from the vesicle was $\frac{1}{50000}$ c.c. They therefore, after diluting the lymph and passing it through the filter, inoculated animal 1 with $\frac{1}{50}$ c c.; from the vesicles which developed upon this animal they collected the lymph, (about 3 c.c.) refiltered and inoculated a second animal with the same amount and so on through a series of six animals. Given the same amount of lymph collected in each case and the same dilution, we see that if it were only a poison the last animal would have received less than one two billionth of a c.c. of the original lymph. As it had been demonstrated that at least $\frac{1}{50000}$ was necessary for infection it is evident that reproduction must have taken place.

Another of these interesting organisms has been discovered by Nocard and Roux in the so called contagious pleuro pneumonia of cattle. The cause of this disease has been looked for by a number of investigators, but although numerous bacteria had been isolated, no one of them turned out upon further study to be the essential parasite. Nocard and Roux proceeded to investigate in a somewhat different manner. They demonstrated that the contagium was present in the serous effusion in the pleural cavity and in the lungs, but again could see nothing; they therefore tried this experiment. A sterilized collodion capsule, a little larger than a ten grain quinine capsule, was filled with sterilized bouillon, inoculated with a trace of the serous fluid and placed by operation in the peritoneal cavity of a rabbit. After a time it was removed and was found to have become milky or opalescent. In this opalescent fluid, it was shown by inoculation the organism was present in increased numbers and upon microscopic examination it was possible to see enormous numbers of minute dancing points, so small that no structure could be made out with the highest magnification. This virus would also pass through a Pasteur filter. Here we have a parasite just upon the borders of visability.

Somewhat, later Beyerinck, a Dutch bacteriologist turned his attention to a curious disease of the tobacco plant, the so called mosaic disease.

This disease produces as its prominent symptoms the destruction of the chlorophyll of the leaves with the result that they become covered with yellow spots. It can be transmitted from leaf to leaf and from plant to plant by inoculation, the slightest trace of juice from the mosaic spot being capable of setting up the trouble in another plant.

Microscopic examination and culture methods were unsuccessful in revealing any bacterial organisms. The juice seemed absolutely clear and transparent, under the highest magnifications, although evidently very contagious. Beyerinck applied the filter test, and found that the filtered juice was equally virulent, and therefore concluded that here also we were dealing with an ultra microscopic virus. He went, however, a step further, and showed what was still more wonderful—that the contagion was diffusible—that it would pass by diffusion through a layer of agar jelly, just as a salt in solution might pass, and he therefore announced that he had discovered a *contagium vivum fluidum* or, really, a soluble toxine, capable of reproduction.

Another animal disease, which for some years baffled investigators, was a type of chicken disease which prevails in northern Italy. It was for a long time confused with the so-called chicken cholera, which is due to a well known bacillus isolated by Pasteur. But further study sufficed to separate it from this disease, and numerous attempts were made, without success, to cultivate from infected birds a specific micro-organism.

Within the past year, the discovery has been made by Centanni and by two Austrian observers, independantly, that in this particular disease, we have to do with a filterable virus. The blood of the animals contain the virus, and it is intensely virulent. A needle dipped in the infected blood, wiped off, and inserted beneath the skin of a healthy fowl, leads to its death in about thirty hours. This infected blood, when filtered through the densest of the Pasteur filters, does not show the slightest diminution in its virulence, and yet microscopic observation fails to reveal anything. Here again we have an example of a parasite of ultra microscopic size.

There are several other diseases of domestic animals which, as a result of the filtration test, combined with the failure to demonstrate organisms by the high magnifications, are to be classed as due to ultra microscopic organisms. One of the most important, recently discovered, is the African Horse Sickness, which McFadyen, in 1900, showed was due to a filterable virus. This virus, not only passes freely through the Pasteur filter, mark F, but even through the most compact form, mark B, which will hold back the virus of foot and mouth disease.

But undoubtedly the most important of all of these ultramicroscopic viruses, as far as man is concerned, is that of yellow fever.

It has this additional scientific interest that its demonstration has been of the most complete character and wonderful practical results have flowed from the careful study of the conditions of transmission.

Our present complete knowledge of yellow fever we owe to the late Major Reed, of the U S. Army Medical Service, one of the most eminent and reliable of American Bacteriologists, and his associates—Carroll and Agramonte.

Yellow fever is a disease which has been studied with the greatest assiduity ever since the development of bacteriological methods, and many have been the bacteria which have been isolated and made responsible for its ravages.

One of the earliest investigators was Stenberg, and his work is a really wonderful monument to the value of negative evidence. For although he isolated an immense variety of bacteria from yellow fever patients he did not venture to connect any one of them specifically with the disease, and only risked calling attention to the more frequent occurrence of a certain form which he called *bacillus x*. It is not necessary to enumerate all the subsequent students of this subject, but some years ago Sanarelli, an Italian, trained at the Paris Pasteur Institute, went out to South America to study yellow fever, and came back with the announcement that he had at last discovered the cause in a form which he called *bacillus icterogenes*.

He was a tried and careful observer, and his work had the seal of the Pasteur Institute, and it was accepted by the majority of bacteriologists, so much so that we kept our cultures of *bacillus icterogenes* under lock and key for fear we should be responsible for the spread of the dreaded Yellow Jack.

However, doubts began to arise when Stenberg demonstrated that Sanarelli's bacillus was his *bacillus x*, and a little later Major Reed demonstrated that both the Sanarelli bacillus and *bacillus x* were simply varieties of the hog cholera bacillus.

With the discrediting of *bacillus icterogenes* the work had to begin all over again, and with the finish of the Spanish-American War Reed and his associates proceeded to Havana to study yellow fever in one of its endemic centres.

But they went with the accumulated results before them of a series of very important investigations into etiology and disease transmission, viz., with the results of Manson's and Ross's work in regard to the transmission of malaria by the mosquito. As early as 1881, however, a

Havana physician Dr. Carlos Finlay had propounded the view that the mosquito was responsible for the transmisson of yellow fever and it was natural that Reed and Carroll should turn their attention to the influence of the mosquito.

The results of the work of these investigators was to show that yellow fever could be communicated by blood taken from patients on the first or second day of the disease. That it could be transmitted by a mosquito (*Stegomyia fasciata*) which had sucked the blood of a yellow fever patient, but only 12 or 25 days after the insect had had its meal of blood. That is the parasite required to live a certain time in the mosquito. Further they showed conclusively that it could not be transmitted by fomites.

The practical outcome of this work has been that by excluding mosquitoes from the sick, *i.e.* prevention of infection of mosquitoes, and exclusion of mosquitoes from the well, *i.e*, prevention of infection by mosquitoes; it has been possible to rid Havana of yellow fever. A practical result in disease prevention which has never been surpassed.

But the special interest which we have in this virus of yellow fever is in the fact that microscopic examination and culture methods failed to show organisms in the mosquitoes or in the blood during the first two days.

It was natural then that the filtration test should be applied and with positive results it was shown that the virus passed freely through a Berkefeld filter which was impermeable for bacteria.

It is quite probable that other human diseases may be found to be due to ultra-microscopic organisms but as far as some of the disease of as yet unknown etiology are concerned, this is not likely. It seems that rabies for instance is not filterable. It is held back by the Pasteur filter.* Similarly vaccine virus will not pass through the filter. In regard to other diseases we do not know anything definite

We may now ask ourselves what is the nature of these minute living particles? Are they simply smaller bacteria than we are accustomed to deal with, or are they a minute species of some type of animal parasite, or do they belong to a class of organism smaller and simpler than anything we have yet considered possible?

These are difficult questions to answer, but in regard to the first, we may perhaps be a little more positive.

I called attention at the beginning to the marked uniformity of size among the bacteria. That in itself is no proof that there may not be bacteria many times more minute than those we are accustomed to, but it is a presumption against that view. A more important reason

*Recent work seems to show that the virus of rabies can be filtered through the most permeable of these filters.

however, is in the fact that we have not yet met with an ultra-microscopic organism of a non pathogenic character. They are all disease producers and if there were saprophytic organism of this character they would certainly have been found, because it is the commonest experiment in a laboratory to pass fluid through a Pasteur filter in order to sterilize them without heat. I only know of one observer who purposely filtered a large number of different putrifying mixtures, both animal and vegetable, with the hope of finding a saprophytic ultra-microscopic organism. This was von Esmarch, and he failed entirely in a very large series of experiments, only finding a small spirillum which would pass fairly readily through the most permeable of the Pasteur filters.

It is probable that the virus of contagions pleuro pneumonia does belong to the bacteria. It is, as I pointed out just visible, and it is also cultivable outside the body. But this is the only one of this group, which I believe can be assigned to the bacteria. As we shall see, it is probably only slightly smaller than the width of half a wave length of the middle part of the spectrum, and consequently does not really differ much in size from the ordinary bacteria, and very slightly from such a minute form as the bacillus of influenza.

But in regard to the truly ultra-microscopic forms, such as the virus of foot and mouth disease, the fowl plague of northern Italy; the African horse sickness and yellow fever, we are in the greatest uncertainty as to position. It is true that in regard to Beyerinck's virus of the tobacco mosaic disease, he cuts the knot at once by calling it a contagium vivum fluidum that is a living reproducing molecule or molecular complex so small and so simple that it is practically in solution in the fluids in which it is living and multiplying. There is nothing, *a priori*, to be urged against this view, but if such is the nature of these viruses, then we have to do with a new series of chemical compounds, with which we have as yet had no experience.

The nearest approach to a condition of matter comparable to such a living molecule is in the enzymes or unorganized ferments in the animal and plant body or the so called catalytic agents, such as colloidal platinum. But these although active in most minute quantities, yet are definitely used up and cannot reproduce themselves.

There is really no argument to offer against this view except that we naturally are loath to accept the existence of such a substance until we can more definitely prove it. If this should be the explanation, however,then we would be getting much closer to the hypothetical first form of life upon the earth in that the distance between a living reproducing molecule or molecular complex and a molecule of dead organic matter must be very short.

The conditions which govern the destruction of these ultramicroscopic parasites have been studied viz : the thermal death point, and the effect of disinfectants, and it is found that they do not differ materially in susceptibility from the higher and larger bacteria. For instance, moist heat of 55° C. for ten minutes destroys the virus of yellow fever, but the spirillum of asiatic cholera is destroyed by 52° C. for ten minutes. Solutions of fluid disinfectants such as carbolic acid and mercuric chloride act in the same way upon them as upon bacteria, but in this they resemble also the enzymes and even the inorganic catalysers, as Bredig has shown.

There is only one fact which it seems to me rather militates against this hypothesis and that is the one discovered by Reed and Carroll in regard to the virus of yellow fever.

They found that the mosquito which had become infected with the virus by feeding upon the yellow fever patient was not capable of transmitting the disease until at least twelve days had elapsed, and that then the incubation period in the infected person was five days. They also showed that 1.5 c. c. of the blood serum of a yellow fever patient withdrawn during the first two days of the disease and injected into a second person produced the fever in about forty-eight hours. Now it may be argued that the long sojourn in the body of the mosquito was necessary for a sufficient multiplication of the virus to produce an effective infection or that that time was necessary for the passage through the stomach to the poison glands, but it was found that the bite of the infected mosquito was harmless after eight or ten days, but harmful two or three days later, and we can hardly think that the difficulties of transit alone were sufficient to account for twelve days in travelling from the stomach to the poison glands. The phenomenon resembles much more that which appears in the transmission of malaria by the mosquito. Here the length of time which elapses is due to the parasite undergoing a necessary cycle of its existence in the body of the insect which results in the formation of minute sickle-shaped spores which then travel to the poison gland and are injected into the next person bitten.

If the twelve days which the yellow fever virus passes in the body of the *stegomyia* is required for the completion of say a sexual phase of existence then we would have to place it in the animal kingdom as an ultra microscopic form related to the malarial parasites.

It will be seen, however, that a great deal more light must be thrown upon the subject before we can definitely place these invisible parasites in the scale of organized being, and the difficulties in the way are very great, first because of their minute size, second because as yet

we do not know how to cultivate them, and thirdly because they are all parasites and consequently can only be studied in the living organism.

In regard to their minute size the question may be asked, must they be definitely placed for all time outside the range of microscopic vision or may our optical equipment yet develop to such an extent that we may demonstrate their organism and even smaller particles?

The theoretical limit of the power of the microscope to demonstrate structure is about 0.25 micron, *i. e.* one half a wave length of the middle part of the spectrum. Below this magnitude minute particles will no longer show structure but will appear as diffraction discs. The smallest visible particle with the highest power of the microscope, structure being neglected is 0.05 micron so that our organism of contagious pleura pneumonia must be in size somewhere between 0.05 micron and 0.25 micron all the others must be under 0.05 micron. With ordinary methods they must always remain invisible but about a year ago Siedentopf and Zsigmondy, with the assistance of the Zeiss firm constructed an optical device which may lead us some distance in determining the approximate size of these parasites although it will never reveal to us anything of their structure. These investigators wished to study the condition of colloidal gold in the so-called gold ruby glasses. The point to be determined being whether the gold was distributed as discrete particles or continuously through the glass. They approached the question in the same manner as Tyndall many years ago attacked the question of the presence of fine dust particles in the atmosphere, viz., by the use of a fine pencil of sunlight.

By means of a heliostat, a spectroscopic slit aperture and a series of condensing lenses a very fine slit of light was thrown into the glass at right angles to the line of vision. The plane of light was observed by means of a very high power microscope and when this was sharply focussed the light plane appeared as a dark ground filled with enormous numbers of brilliant particles. Each particle showed no structure, simply a diffraction disc due to the light being turned and thrown into the tube of the microscope but nevertheless counts could be made and the size of the particles could be estimated.

The unit of measurement which they take is that used by the physicist and chemist, viz., the millimicron, written $m\mu$ $\frac{1}{1000000}$ mm, or $\frac{1}{1000}$ micron, and they found the size of the particles in the following manner. It can be demonstrated that the diffraction disc from particles smaller than .006 microns ($\frac{6}{1000000}$ mm) would be too small to see, consequently the size must vary between .25 micron and .006 micron. The number in a given cubic area of glass was counted, the amount of

gold estimated chemically, and from these data and the specific gravity of gold the probable size calculated. By this means the smallest particles seen were estimated to be about .006 micron, whilst the average size was about .05 micron.

Now if we remember for a moment the estimated size of a molecule, varying from say 0.5 millimicron for the largest, or according to other authors 2 millimicrons for a molecule of albumen, down to .05 millimicron, we see that the smallest particles that this method can reveal is still some distance from molecular size.

But if the method were applied to our ultra microscopic particles it might be possible to estimate how closely they approach the size of a molecule.

Recently Raehlmann, in the *Muenchener Medicinische Wochenschaft*, has applied the method to the study of coloured solutions and to solutions of albumen. In the albumen solutions he was able to see very minute particles, which disappeared when the solution was heated to the coagulation point. In glycogen solutions, when sufficiently dilute, particles could also be seen as well as in glucose and milk sugar solutions, peptone solutions showed an exceedingly faint diffraction cone, but individual particles could not be seen.

With a glycogen solution of proper concentration this interesting experiment was performed. A drop of diastase was added to the fluid, and immediately the cone of light in the microscope disappeared, and in their place larger and more scattered disc could be seen, which gave, according to Raehlmann, the same picture as that of dextrine or glucose. He thinks that in the glycogen what was seen was a special type of molecular complex, determined probably by the form of the simple molecule, and that by the addition of the diastase he was able to watch its passage into the isomeric sugar.

VISCERAL MANIFESTATIONS OCCURRING IN THE ERYTHEMA GROUP OF SKIN DISEASES.

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A MOST interesting and original paper on the "Visceral Manifestations of the Erythema Group of Skin Diseases" appears in the current number of *The American Journal of the Medical Sciences*, from the prolific pen of Professor William Osler. The perusal of it calls vividly to mind a long, trying, and in many cases obscure case which recently has been under my care. It also raises many points of interest

in connection with that most polymorphous group of skin diseases—the erythemata.

In the group are usually included "simple erythema, erythema exudativum, herpes iris, erythema nodosum, certain of the purpuras, urticaria and angio-neurotic oedema." While these diseases differ widely in causation, appearance and prognosis, they possess in common the fundamental condition of vascular dilatation, plus exudation of blood or serum, usually the latter. The organ which usually bears the brunt of the disease is the integument, but occasionally, either along with such manifestation or without it, the deeper structures are attacked apparently in the same way. The organs most apt to be thus involved are the kidneys, and this was the cause of death in most of Dr. Osler's series, but any organ or structure may apparently suffer in the same way.

Dr. Osler's series consists of 29 cases of erythemas plus visceral complications, and seven of these proved fatal. As regards the age of occurrence,

8 were in individuals under 10 years of age.
10 " " " 20 "
8 " " " 30 "
None between 30 and 40 years of age.
2 " 40 " 50 "
1 " 50 " 60 "

My case was 63, and hence older than any of these. There were eleven females and eighteen males. The following is the description of my case :—

Case.—Mrs. A., aged 63. First seen in December, 1902, for swelling of the ears, nose and eyelids, with some nausea and vomiting. Duration of illness, about two years. *Previous history*—She had been an unusually healthy woman until the present illness began, two years ago, never having been seriously ill until her last (third) confinement, when she was five months in bed. Had always lived an active and abstemious life, and been an unusually small eater. No history of rheumatism, nor of any previous erythematous threatenings. Never had "nettle rash."

Family history—Negative.

Present illness—About two years ago, while feeling in her usual good health, a spot appeared upon the left thigh, quickly followed by several more in the same region. They were all of the same nature—white in the centre, surrounded by redness, were raised above the surface and were itchy and burning. After a while they became bluish in the centre. They lasted for several months and then gradually faded. During part of the time that they were present there was a

good deal of gastric disturbance. By the spring they had completely disappeared. The patient spent that summer (i.e. 1901), on the Continent and remained well, but on the voyage home patches of the same nature as the ones described appeared on the right thigh, and then gradually disappeared in the same way. The following summer (i.e. 1902), the ears became "inflamed" and much swollen and distorted, and they have never quite recovered, although they have improved from time to time. A few weeks before I first saw her, the eyelids became swollen and reddened, and the conjunctivæ much congested and lastly, the bridge of the nose was affected in the same way, accompanied by some obstruction in nasal breathing, pointing to involvement of the nasal mucosa.

The bowels have on the whole been regular.

Present condition. Patient is a rather pale, flabby woman of about 110 lbs. weight. Temperature 98°—99.5°; pulse 84, regular, and of rather high tension. Vessel wall normal for the time of life. The skin is normal except for the condition to be described. Both ears are greatly swollen and are distorted, being bent forward on themselves. They are hot to the touch and are tender on pressure. Are bluish red with a smooth dry surface. They burn and ache. There is no deafness and the external auditory meatus remains open. Round both eyes, there is much swelling of a similar nature which almost closes the eyes. The conjunctivæ are deeply engorged and there is some photophobia. Over the bridge of the nose is a slight patch of similar swelling, and this (as the history states) involves the interior of the nose, and she is forced to breathe chiefly through her mouth.

The tongue is somewhat furred and the breath is foul, and there is nausea and some vomiting.

The urine is scanty, very acid, and shows a heavy urate deposit on standing. Sp. gr. 1030. no albumen or sugar and nothing further on microscopic examination. Respiratory and other systems appear to be normal. The patient is depressed or sleeps badly.

The diagnosis of erythema multiforme in a lithæmic subject was made.

The patient was put upon a pure milk diet, was instructed to drink much water (which was very distasteful to her, by the way), a drachm of magnesium sulphate was given every morning and salicin in 10 grain doses thrice daily was ordered. The local condition was attended to by Dr. J. M. MacCallum who had referred the case to me for general treatment.

She improved very quickly at first, and four days later the following note was made:—"Much better. Erythema on nose disappeared in two

days. Ears and eyes not yet well. Spec. gravity of urine 1022. feels well and hungry. Bowels regular. Temperature normal. Is more cheerful."

After that the ears and eyes gradually improved and three weeks from the time that she was first seen (*i.e.* on January 5th, 1903), the following note occurs: "Face now well, but some obstruction still to nasal breathing. Has pain in the right hip, which is present only when she moves the limb but is then severe. Nothing to be seen or felt on examination." This condition gradually improved and was practically gone on January 20th, when a new invasion was noted as follows: "At first pain and redness on the left side of neck, then gradually this shifted to the right side. Three days ago patient lost her voice but can say "ah" in a low key. No stridor. To-day, has great difficulty in swallowing and the saliva collects in the fauces. Slight pain in the region of manubrium sterni. Nothing abnormal can be seen on examination of fauces."

24th January. "Some inspiratory stridor has developed. The voice has partially returned, so probably obstruction is below glottis."

26th January. "Has been very ill with tracheal obstruction, producing great stridor, chiefly of the inspiratory type. The stridor is dry. Voice partially present. There is great indrawing of the chest during the laboured inspiration, and it is evident on examination that the air enters the left lung with especial difficulty." Dr. MacCallum could see nothing abnormal in the larynx on laryngoscopical examination. During the night of 25th January, the obstruction became so great that considerable cyanosis developed. A 200th of a grain of atropine sulphate was given by the mouth and repeated in four hours. It produced great dryness of the throat, with dilatation of the pupils, with flushing and excitement. One-eighth grain of morphia hydrochlorate then given hypodermically produced heavy sleep which lasted for hours. This susceptibility to these two drugs was noted on several subsequent occasions. On awakening from the heavy sleep, the patient vomited and the obstruction was somewhat relieved; but on February 6th, nearly proved fatal again. After that it gradually died away, and on the 21st February it was noted that "the throat and trachea are now well, but both knees are swollen, red and tender. There is no fever." At the end of March the knees were nearly better, but pains and redness appeared in the shoulders. For the next month she kept fairly well, except for a short dry cough, apparently due to an irritation in the trachea.

On 1st May, she went on my recommendation to a watering-place, where the water is largely charged with sulphur. On 14th May I saw

her, as she was not so well, and found her coughing frequently, though no signs of respiratory trouble could be made out on physical examination of the chest. The temperature was 102° at night. Both feet were swollen, reddened and hot, especially about the ankles, and there was considerable œdema which pitted deeply and easily on pressure. Several of the interphalangeal joints of the hands were swollen in a similar manner.

She returned to town in the end of May, and on 5th June it was noted that "the feet are still swollen and œdematous Knees and other joints have improved, and the cough is better. Weight 91 lbs. (a loss of nearly 20 lbs.)".

13th July. "Weighs 94 lbs, cough gone. Tongue fairly clean; bowels regular; all redness now out of joints, but feet are still considerably œdematous; knees are rather stiff and veins over them are prominent."

She remained comparatively well from this time until the end of September when a recurrence of the tracheal obstruction took place and proved fatal, the heart becoming weak and irregular before death. To sum up, during an illness of nearly three years duration the erythematous process attacked successively the following parts: Skin of left thigh; skin of right thigh; ears *i.e.*, auricles; eyes; nose, including its mucous membrane; right hip; left side of neck; right side of neck; larynx; fauces; trachea and left bronchus; knees; shoulders; feet; hands; trachea again (producing death). It usually left one part as soon as another was attacked, but often the processes in two parts overlapped.

I have scarcely mentioned the treatment of the case as the results were chiefly negative. Everything which could possibly remove toxins of a gouty or rheumatic nature from the blood was tried and the case exhausted my resources, and apparently those of the several consultants who saw the case with me.

The inhalation of oxygen certainly gave some relief when the patient's power of obtaining air was limited by the stenosis of the air passages. I have already mentioned the marked idiocyncrasy that existed in the case towards atropine and morphine.

The pathology of these cases is not very clear, but the essential condition appears to be a localized vaso-motor dilatation, probably of the nature of paralysis. Raynaud's disease consists in a localized vaso-motor spasm, and this disease—erythema, appears to be of exactly the opposite nature—spasm in the one case and paralysis in the other. "The histological appearances consist in a dilatation of the vessels, cell proliferation around the vessel walls, some emigration and œdema of the lymph spaces round the vessels and in the cutis in different distribution." (C. Allbutt, System of Medicine, Vol. VIII. p. 672).

The causation of erythema multiforme is often obscure and varies in different cases. Drugs, septicæmia, acute specific fevers, especially acute rheumatism, may all cause different phases of the condition in certain individuals.

It is only natural to suppose that in individuals so affected, a special vaso motor instability must exist. Dr. T. D. Savill (*Lancet* January 30th, 1904) would have us believe that most cases of erythema are dependent more or less upon hysteria. He says, "Evidences of the hysterical diathesis can be revealed in between 85 and 90 p. cent. of my hospital cases of urticaria factitia. erythema (all kinds,) and circumscribed œdema taken collectively." And again he adds, that "exudative skin diseases (*i. e.*, urticarial, erythematous and hemorrhagic exudations) are products, in widely varying proportions, of reflex and emotional excitability *plus* hæmic changes. Among the co-operating causes sometimes in operation may be mentioned toxins of gastro-intestinal origin, articles of diet, traumatism, toxins of insects and other causes to be considered hereafter. But without the vaso-motor instability, innate—*i. e.*, hysterical—or acquired, these cannot act.

To my mind, at least, Dr. Savill has gone much too far in using the terms innate vaso-motor instability as another term for hysteria. All of us have seen many examples of urticaria, erythema from insect stings, tache cerebrale, etc., where no hysteria existed.

In the case of Mrs A. above recorded no such instability seemed to have been present until the onset of the disease which within three years proved fatal, and she was certainly not hysterical. And yet probably an idiosyncrasy towards some poison existed in a dormant state and as soon as that poison appeared in the blood the disease occurred. What the nature of the poison was is quite obscure. When first I saw the patient she was lithæmic, but the removal of this disorder made little or no difference in the erythematous disease and one must assume some other poison than that of gout to be to blame. From the fact that the disease continued, although during most of its course the gastro-intestinal tract was apparently in perfect order, we may probably infer that the poison was of tissue rather than or gastro-intestinal origin.

Cases of exudative erythema appear sometimes to be epidemic and such an epidemic is mentioned by Gall (quoted by T. C. Fox in C. Allbutt's System of Medicine, Vol. VIII.,) as occurring in Bosnia amongst soldiers. Two cases that I recently saw support this theory. They were both of the erythema nodosum type and occurred almost simultaneously in the person of two women who occupied the same bedroom.

In all Dr. Osler's series, the deeper viscera were affected and it is, of course, to this complication of erythema that he calls special attention. In no less than 14 out of the 29 cases did acute nephritis occur and uræmia accounted for five out of the seven deaths.

In my case the trachea was the only deep viscus affected but no more terrible complication could have occurred.

ON THE TREATMENT OF VARIOUS FORMS OF CUTANEOUS DISEASE BY THE X-RAYS AND LIGHT.[1]

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THE epidermis when structurally intact has hitherto offered such an impenetrable bulwark and so successfully protects the underlying structures, that agents designed to exert action on tissue elements only very little beneath the surface have been found uncertain and inefficient. No doubt this statement—as Unna has shown—requires modification when the epidermis has become unsound and therefore porous. A certain, sometimes an undesirable, amount of absorption is in such circumstances possible, but this very unsoundness restricts our efforts, as the integument is apt then to resent interference, and harm in place of good may easily be wrought. The means hitherto at our disposal have either been direct caustics, or those which occasion irritation in the first instance. Of these latter, iodine may be taken as an example. In Unna's opinion there are a few substances, carbolic acid, resorcin, salicylic acid, and cantharidin, which can, acting from the surface, induce increased mitosis, and thus modify cellular changes within the substance of the skin. But even these, if the effect is kept below evident irritation, act by producing an exaggeration of normal moulting, a renewal which exceeds the natural. Quite recently, however, science has introduced agencies which have marvellously augmented our powers. In the x-rays assuredly, in the Finsen light under favourable conditions, in radium and high frequency currents, we have sources of energy which can influence the various tissue elements in and beneath the epidermis.

Till now it is only with the first two of these that my experience deals. Radium is not yet procurable, and we have not so far availed ourselves of the high frequency current The literature of the x-ray and light treatment of cutaneous diseases has now reached such proportions and expresses such varied views that it seems inadvisable in the

1 Read before the Medico-Chirurgical Society of Edinburgh, January 8th. Scottish Medical and Surgical Journal, February.

time available to attempt any resume or analysis. It appears preferable, therefore, to limit oneself to the consideration of the results obtained in the Royal Infirmary since these methods have been employed there. When we commenced to use the x-rays we had the old spring contact breaker, which, besides other disadvantages, did not enable us to procure a satisfactory quantity or quality of rays, and the effects were hardly as felicitous as we had anticipated, indeed were disappointing. But as soon as a mercury motor interruptor was substituted an immediate change was perceptible, our control over the influence we desired to produce became immensely greater, and in suitable cases improvement was very soon observable. In employing the rays we have proceeded on the principle that in dealing with an agent still so mysterious and so capable of doing mischief as well as good, constant supervision must be exercised, and the cases under treatment are regularly inspected at short intervals. In this way the earliest signs of reaction are, as a rule, detectable, and exposures can be stopped before this has gone beyond its initial stage. There are indeed instances where reaction does not show itself till days, occasionally even weeks, after the last exposure, but when it appears thus remotely it is seldom severe.

Another point which has been closely considered is the due protection by lead masks of parts other than those involved in disease. This screening cannot always be perfectly accomplished. Thus sometimes affected areas encroach on bearded portions of the face. In such, shedding of the hair could not be wholly avoided, but this is a lesser matter than the cure of the ailment, particularly as the hair usually after a time returns. The distance from the tube has also exercised us considerably, as while the nearer the more intense the effect, there is at the same time a greater risk of burns. Hence a mean of from 4 to 6 inches has been adopted, and this has been found satisfactory. The duration has been on the average five minutes to each part exposed. The available days are Mondays, Tuesdays, Thursdays and Fridays, though some cases have been subjected to the rays more frequently in the case of those who have manifested great tolerance. Working with a comparatively high ampèrage and low voltage, since we draw our energy from accumulators and not directly from the main, we operate with a cold anti-cathode. As is well known there is a difference of opinion on this problem. My experience in private with a high voltage and low ampèrage employing a red-hot anti-cathode, is still too restricted to enable me to deduce any conclusion. While not in any way courting reaction, we have found that a moderate degree is not at all harmful, indeed is a good test that the rays are acting on the tissues; but since no one can say how far in any

given case such reaction may go, we have always stopped further exposures on its appearance. Burns of any severity have occurred almost exclusively in lupus, where a scar of some sort is nearly inevitable, or in favus or sycosis of an intractable kind, where it is of little or no moment. We have not had any x-ray burns leaving scars in rodent ulcer or in the two instances of mycosis fungoides, thereby affording additional evidence of the special applicability of this method to these. Sometimes the plan suggested by Dr. Norman Walker of painting with pure carbolic acid, in instances where the disappearance of the lesions was slow, has been followed by improvement. This has chiefly been employed in lupus vulgaris, where there are great individual variations in sensitiveness to the rays. On the other hand, a few cases react to but one or very few exposures and the interval had in them to be prolonged. As the tubes used do not possess any means of regulating the vacuum, they often become pretty rapidly "hard," and then, in our experience, less active. With ordinary care we have not found "soft" tubes—those having a sparking distance of under 3 inches—particularly apt to burn, while certainly more efficient in curing the lesions.

There is an element which exerts an occult influence on the rays, one in a large measure beyond our control and to which little if any allusion has been made in papers devoted to this question. This is the element of weather, one which here we have the opportunity of experiencing in all its phases. We have observed that on cold raw days reactions more readily occur. This is just what one might expect. But mere raw cold does not wholly account for it, since reactions also appear in the course of climatic variations which to residents in this country can hardly be regarded as exceptional. It was often noted, while I was connected with the City Hospital, that the temperature of all of our fever cases rose on one particular day apart from any very obvious meteorological change. The late Dr. Wood and I scanned the daily weather reports in *The Scotsman* in all their details, yet we were unable to fix on any constant factor which could be charged with the rise. And so with the reaction in the case of the x-rays, while cold is one, it is not the sole climate condition which favours reaction; still the exact combination without and within the patient which promotes a tendency to reaction cannot yet be condescended on more accurately.

During the last eighteen months there have been under treatment 133 cases of lupus vulgaris. The great proportion of these have been treated exclusively, and a larger number partially, by the Finsen light. There have been 30 cases of favus, 21 of rodent ulcer, and 12 of sycosis. In addition there have been 2 cases of mycosis fungoides. All these

have been dealt with entirely by means of the x-rays. Unfortunately it is impossible to represent our results by statistics. Nearly all the cases were treated as out-patients, and of these some discontinued attendance, or the exposures were interrupted for various reasons connected with the circumstances of the individual. It may be said, however, generally, that all who persevered have been, if not all cured, at all events very materially benefited.

1. *Lupus vulgaris.*—This bulks by far the largest. Now while in all the modes of dealing with this hitherto employed, while the centre clears up, the margin is apt to remain the seat of active disease, which ever tends to encroach on healthy skin. In very many examples the effect of x-ray treatment is to check progress at the margins, which scar over, though here and there small nodules persist in the centre even though this too has greatly improved. This was remarkably well shown in a case sent by Dr. Douglas of Cupar-Fife, on 21st March 1903.

H. T., 17. A healthy enough looking lad, who, however, had his knee excised ten years since by Mr. Miller for tuberculosis disease, and has had several strumous abscesses on his neck and face. The lupus on his nose commenced eighteen months ago, and has spread till the whole skin of the nose up to one inch from the root is affected. The surface was swollen and fungating, and covered with sebaceous-looking crusts. The disease had crept into the nostril from the side and beneath on the right, from above on the left, and this was blocked with scabs. As the result of the x-rays till now the entire nose has cicatrised, and only at the left side there is a small area doubtfully diseased.

Though, if extensively involved, the interior of the nostrils may need the employment of scraping or other topical medication, in not a few the crusting there, so suspicious a feature, may completely dry up under the rays alone. This was well exemplified in the case of Nurse A., whose whole nose, a patch the size of half-a-crown on the cheek, and a considerable area under the chin were affected. This case had been actively treated by other methods with only temporary benefit. Not only now is there no visible trace of disease remaining, but the nose has almost assumed its original shape, with scarcely any scar, and the troublesome crusting within the nostrils no longer occurs. Undoubtedly the soil in lupus has to be reckoned with. When the skin is soft, pale and tender, and the child or adult exhibits very markedly the signs of the strumous diathesis, such are somewhat prone to react readily, and not always to go on as satisfactorily as one wishes, yet this constitutes no valid reason for not trying the rays, as in many most unpromising to appearance excellent results have ensued. Even if by the rays one can-

not be quite sore of an ultimate cure, what can be done is to reduce immensely the area of disease, and thus to bring it gradually within more manageable limits. Other and older methods are quite compatible with the use of the rays, and can be employed as auxiliaries with much advantage. A very good proof of the permanence of the effects was shewn in a case of Dr. Norman Walker's a sailor whose face had been nearly covered with lupus patches, and yet he had for a year followed his occupation, with exposure to all kinds of weather, without recurrence, when seen in December 1903, and this is not an isolated instance.

An important question has been raised by Dr. Robert Thin *à propos* of one of his cases we treated with the x-rays and Finsen light. Shortly, her case was this. M. B., 19, had lupus vulgaris as long as she can remember. In October 1901 there was extensive disease of the left cheek and many nodules scattered over the right. At first she had x-rays till the end of February 1902, when the light treatment was substituted and continued till the middle of June, with almost no improvement. The surface was then scraped and the x-rays resumed till August 28th. Some benefit ensued, "but this was almost immediately followed by an attack of tubercular peritonitis, which laid her up for several months, to be promptly succeeded by a deep abscess in the neighbourhood of the right hip." She presented herself again on June 15th, 1903, and the x-rays were used till August 24th, when reaction set in. Some advantage had been gained, "but in a few weeks another tubercular abscess appeared over the anterior superior spine of the right os innominatum, and this is at present (27th November) healing up." The question is whether the peritonitis and the abscesses were directly due to the x-ray treatment or not. Nothing similar has occurred in our experience so far, and it is most unlikely that the action of the rays was to set the bacilli free in the circulation after the manner ascribed to tuberculin.

We have found that the modification of the Finsen light provided by our Marshall and Wood's lamp is most applicable to small patches of lupus, where firm pressure can be readily exerted from their being situated over bony structures, or for residual nodules similarly placed after x-rays treatment. One of our best cases treated exclusively by the Finsen light was that of Mrs. P., an otherwise healthy woman, aged 33. In her the disease commenced in childhood, and when seen on 1st April 1902, there was a patch the size of a penny in front of the left ear and another somewhat smaller in the centre of the same cheek. Exposures were continued for exactly a year, when she was dicharged apparently cured, with a fine soft level scar. Quite recently a slight

recurrence has occurred in the margin of the scar nearest the nose and treatment has been instituted.

Other cases nearly as successful have resulted. The method has the superiority over the x-rays that it does not give rise to burns, but it is much more restricted in its applicability and progress is slower Our lamp was originally calculated for ten ampères, bnt latterly we have raised this to fifteen and focussing lenses have been given us by the managers, which have added to the penetration. In the hope that this might be augmented in another way, the application of adrenalin, shortly before the lamp, was tried for some time, but was abandoned as the exaltation in effect was not at all commensurate with the expense.

2. *Rodent Ulcer.*—The curative influence of the x-rays in this disease is now universally conceded. Perhaps the best results of their unaided use were obtained in the case of fungating rodent of the face which was shown by me at the Meeting of this Society a month since ; but uniform benefit has accrued in all cases. When progress is watched the margin is seen to recede, and with the absorption of the new growth, healthy epithelium advances from without inwards. The more completely the rodent is limited to the skin and subcutaneous tissue the more brilliant the success, but even when periosteum and bone are implicated a cure may follow. In other forms of cancer, however, the effects have not always been so good. In one instance, indeed, where there was a large gap in the cheek reaching down to and eroding the bones, fresh masses of cancerous growth sprouted up even while the rays were being actively employed. And yet mucous membrane removed from the cavity for examination was found quite healthy. The rays find their special field of applicability in situations such as the nose where excision is likely to occasion great disfigurement.

In order to shorten the time required for the absorption of patches of rodent, it is desirable to get rid of as much of the new growth as possible by scraping, supplemented by the applicatien of chromic acid fused on the point of a probe—care being taken not to employ this to large areas at a time.

As to permanence of results one cannot speak dogmatically, and that the disease may and does recur even after prolonged exposures and apparent cure is shown in the case of Philip I., aged 56, who was under treatment here two years since for widely diffused though superficial rodent of the right cheek. Under the combined employment of erasion, chromic acid and exposures to the x-rays, he went home with a fine smooth scar and no visible remains of the ailment. But he returned a few days since with a marginal extension, a deep groove all round the

still healthy cicatrix in the centre. This groove is specially defined at the lower border and shows there the characteristic rolled edge. When discharged he was warned to report himself at once should any reappearance of his trouble manifest itself, but this admonition he neglected to attend to. Some hold that the x-rays have less control over recurrences after previous use. An opportunity of testing the truth of the reverse of this idea is here afforded.

3. *Sycosis.*—Here only intractable cases have been treated. Some of these stood the applications with little more than the production of a sensation of heat. In others swelling, redness and pain rapidly followed. In all, however, after a longer or shorter time the hairs fall out, while the pustules become fewer and fewer. Yet, unless the part can be rendered absolutely bald, and a smooth, white, scar-like surface be left, the disease may recur. In such cases the fine returning hairs on being extracted can be seen to have a minute amount of pus at their foot.

4. *Favus.*—Here with loosening and falling out of the hair the disease dies out, a polished hairless surface remaining. But while in some, exposures amounting in the aggregate to about an hour will cause separation of the hair, in others a much longer period must elapse ere this is accomplished. Cases of favus are not prone to react unduly. A good example of the permanent effect of this treatment was seen in the case of J. D., 13. In him the disease was said to have lasted for two years, and almost the entire scalp was involved. X-ray exposures were commenced 3rd June, 1902, and continued nearly a year, successive portions of the scalp being dealt with in order till the hair had all fallen out. On 30th November, after six months' rest, the hair had grown thickly everywhere except a patch on the centre of the crown, where the disease had destroyed the hair before coming to the Infirmary.

5. *Mycosis fungoides.*—In this rare disorder the rays have proved the sole means of arresting an otherwise hopeless disease. The case treated a year since, and of which an account was published in the last volume of the Society's Transactions, continues well in so far that all the parts of the body then exposed to the rays remain free from recurrence, but in a letter recently received from her she states that one or two patches never submitted to their action. A case in my ward, at present in the erythrodermic or pre-mycosic stage, has so greatly improved as to be nearly well.

Can any inference be deduced from these observations explanatory of the mode of action of the x-rays? It seems to me that there may. That they exert no direct lethal effect on microbes is pretty widely accepted, and is supported by what occurs in sycosis treated by them.

Though the rays have the power of causing separation of the hair from the papilla, and inhibiting its growth and renewal, at least for a time, they only kill the staphylococci by removing the pabulum furnished by the hair and its sheaths *in situ*, and by emptying the follicular tube, much in the same way as an alveolar abscess comes to an end when the offending tooth is extracted. In proof of this we have seen that in sycosis the vitality of the staphylococci is not wholly destroyed, since pustules reappear in places coincidently with the regrowth of the young hair. In favus, again, epilation has been for long a favourite plan of cure, and the rays merely do this more thoroughly and more naturally, they do not of themselves put an end to the achorion. The apparent bactericidal action in lupus can be best explained by their promoting phagocytosis. The bacilli are few in number and scattered throughout the nodules, and are thus readily dealt with when the polynuclear leucocytes are increased in number and activity. In mycosis fungoides and rodent ulcer we have non-microbic diseases, at least in them no causal organisms have been isolated. The notable effect of the rays in the two latter diseases seems purely owing to a power which these rays possess of recalling aberrant cells to obedience to trophic nerve control.

ALCOHOL IN MEDICINE AND SURGERY.

BY JOHN FERGUSON, M.A., M.D., Toronto.

SOME time ago *The Practitioner*, (British), contained a number of articles on the use of alcoholic liquors in medicine and surgery, and as a beverage. These articles are from the pens of persons of very large experience, and consequently carry much weight with them. I shall attempt to cull from them some of their leading thoughts.

Sir Samuel Wilks admits that, while alcohol is both an important article of diet and a good medicine, the answer to the question of its value cannot be given dictatorily. He thinks it is deplorable for a medical man to give alcohol to all his patients because they are weak. The custom of giving alcohol in every form of sickness and debility was much more prevalent a number of years ago than it is now. In the majority of cases, there is not much difference in the practice in any general hospital and a temperance hospital, with regard to stimulants, at the present day. Nowadays, patients brought into hospitals suffering from fever, pneumonia, rheumatism, or other diseases are put on simple diet, and alcoholics are only ordered when special conditions demand their use. Many physicians, however, still go too far in the employment

of alcohol, believing the weakness and the state of the pulse are indications for its administration. This is a great error, as the pulse may be weak, irregular, and frequent, and yet harm may be done by the free use of alcohol. This is oftener the case in organic diseases of the heart, where a heart tonic such as digitalis, and not alcohol, is what is required. In such cases, with weak heart action, the patient may easily be rendered drunk. So in typhoid fever, a patient, not accustomed to alcohol, may readily fall into a drunken state. It is as difficult to determine when a patient has had too much as it is to determine when it is advisable to order it. It would be well to regard alcohol often in the light of a sedative, rather than as a stimulant. In many nervous and painful affections, the proper administration of alcohol, for the procuring of sleep and the relief of pain, yields very satisfactory results. But in all these cases, great care is required to regulate the amount. In the nervous depression following severe illness, such as influenza, the use of wine is of decided advantage. In melancholia, however, it may be very disappointing, and the depression, after the effects of the alcohol has passed off, may be greater than ever. Small doses of morphia may do better. In some cases of typhoid fever, where the symptoms undergo a sudden change for the worse, as rapid pulse, high temperature, and delirium, the sedative action of alcohol cannot be gainsaid; and may change a well-nigh hopeless case into a favorable one. In elderly persons with bronchitis it is of the greatest value, and, when given at the critical time, has often saved the life of a pnuemonia patient. But, to the extent that it can do good, it is also capable of doing great harm. In doubtful cases, it may be that alcohol is ordered to avoid the blame that all was not done that might have been done to keep the patient up. In the wasting, or marasmus of children, repeated doses of brandy sometimes work marvellous effects.

Sir Henry Thompson relates that when he was a boy of about 18 years of age—he is now 80—it was a common custom at dinners for the older persons to try to get the young lads to drink enough wine to make them drunk. This custom is now happily dead. He gives his own experience, that as a very moderate drinker of wine for many years, he suffered from rheumatism and hemicrania. He gave up stimulants entirely, and in a short time he was quite free from both these complaints. When 75 years of age, he thought he would put to the test the saying, *vinum lac senum*, wine is the milk of old age. He soon found out that it was injurious, and that his old infirmities returned. It is a fallacious notion to suppose that, as men grow old and infirm, they require more "support."

Sir W. H. Broadbent discusses the topic of "Alcohol as a Medicine." The point he lays down is, that alcohol is a medicine and should be pre-

scribed in disease with the same care that is taken in ordering any powerful remedy. In thinking of the good effect of stimulants, we must not overlook the bad effects of their prolonged use on the stomach, liver, kidneys, and cordio-vascular system. He expresses the hope that the idea that stimulants give strength no longer exists in the medical profession. Though a certain quantity of alcohol does undergo oxidation, neither muscular nor nervous is produced, but only some heat. One of the effects of alcohol is an indirect one. Under its influence there is a dilatation of the arterioles and capillaries, and, consequently, a quickened action of the heart because of the lowered resistance Any increased functional activity comes from the blood and tissues, and not from the alcohol. In chronic diseases, he holds that alcohol has no place in the weakness of childhood. In anæmia and chlorosis they are of very doubtful value. One of the most treacherous uses of alcohol is for the relief of depression, as there is an unfavorable reaction following their administration, and the habit of alcoholism is more likely to be formed in such a case than in most others. In renal disease, alcohol is contraindicated, whereas in phthisis it is of considerable service. In giving alcoholic stimulants in cases of debility, the rule should be followed of only giving them with food, and their good effects judged by the increase in the amount of food taken, as the result of this employment. In such cases, the best stimulant will be the one that increases the appetite most. The biscuit and glass of wine in the forenoon is not a legitimate employment of stimulants. He urges great caution in the use of stimulants in acute fevers. They are unnecessary in a large proportion of cases, but may be very injurious. In acute febrile cases, stimulants should not be given in the early stages, but should be withheld as long as possible. Even in the case of those who have indulged freely, it is safer to withhold them until it is clear they are necessary. In ordering alcohol for a fever patient, have close regard to the pulse. Its frequency and low tension with dicrotism rather than its strength are the main guides. If the stimulants are doing good, the pulse will be less frequent, steadier, better sustained and less dicrotic. When the tongue is dry and there are sordes on the teeth and lips, alcohol does good. If the stimulants cause excitement, sleeplessness, increased frequency of pulse, or gastric irritation, they are doing harm. If they are doing good they will promote sleep and diminish restlessness. The odour of the stimulant should soon disappear from the breath. If it lingers, or if it gives rise to the foul odour of the drinker, it should be withdrawn or reduced in amount. As to the amount given in 24 hours, 10 ounces are considered the maximum that will do good, and this

applies specially to pneumonia. In some cases of septicæmia even larger quantities may be given. The above amounts refer to whiskey or brandy. The good effects of the stimulants may be increased by ordering one or two doses of champagne in the day, along with the whiskey or brandy.

Professor G. Sims Woodhead, discusses the "Pathology of Alcoholism." He opens his paper by stating that cirrhosis of the liver and kidney is in most cases due to excessive use of alcohol; that pneumonia in the heavy drinker is particularly fatal; that fatty degeneration is often met with in many organs of those who are intemperate; and that many forms of nervous diseases have an alcoholic history. He strikes a severe blow at the teaching, that because alcohol can be oxidised in the system it is an aliment. It would be as proper to say that because diphtheria toxins may undergo oxidation, they are foods. The question is not one of oxidation, but of the good or harm that alcohol, even in small quantities, may do to the various tissues of the body. It must be borne in mind that alcohol has an extraordinary affinity for oxygen, so that the oxygen in the system is seized upon by the alcohol, and the oxidation of fats and carbohydrates is interfered with. This, of course, leads to imperfect metabolism. In the first place, there may be a great excess of fat in the system, found surrounding and throughout many organs But there is another and more important action of alcohol. It increases the elimination of nitrogen, by causing destruction of protoplasm, and the accumulation of fatty degenerative products in the protoplasm of the cells. This fatty degeneration of the cells may go on while the person is very fleshy. There is the deposit of fat around and in the organs of the body, the fatty degeneration of the nitrogenous protoplasm going on at the same time. This fatty degeneration of the protoplasm of the more highly developed or specialised cells is seen best in muscle fibres of the heart; but it is met with in the muscular coat of the blood vessels, in the liver cells, and in the excretory cells of other organs. There is a strong tendency for calcareous matter to be deposited in the degenerated muscular tissue, and also for the overgrowth of the fibrous tissue in excretory organs such as the liver and kidney. So that, as a sequel to the fatty degeneration, there are a calcification of the vessels and a cirrhosis of the liver and kidney. These changes may be found in those who have taken what they call moderate quantities of alcohol. In the brain and kidneys, arterio-sclerosis is common, and in many cases can be attributed to no other cause than the use of alcohol and not always or necessarily in large quantities. But alcohol is not only a cumulative poison in itself, but also exerts its cumulative action in connection with

other poisons, as arsenic, phosphorous, antimony, lead, and similar substances, and also in connection with the poisons of disease-producing organisms and the waste metabolic products of the body. It has been well established that alcoholics yield more readily to the disease processes in cholera, diphtheria, phthisis, rabies, suppuration, and so on, than do those of the abstainer class. In cases of impaired respiration, as pneumonia and phthisis, alcohol must be given with much care as it must be oxidised, no matter what other products remain unoxidised. Attention is drawn to the fact that athletes, who are abstainers, train with greater ease and have greater endurance than those who are even moderate drinkers. Professor Woodhead gives this as his personal experience as well as from the observation of others.

Pearce Gould, F. R. C. S., Surgeon to Middlesex Hospital, takes up the topic "Alcohol in Surgery." He calls attention to the fact, that a drunken man will try to walk on a broken leg, will foul a wound, will lie on the wet ground when injured regardless of the results. The improper use of alcohol plays an important rôle in the causation of genito-urinary diseases. Drinkers are prone to delirium tremens after an injury, which adds greatly to its danger. For a number of years he has dispensed almost entirely with alcohol in his surgical practice. He condemns the use of alcohol in septic cases. It dries the mouth, furs the tongue, clouds the intellect, lessens the ability to digest food, and does not lessen tissue waste, nor aid in the elimination of poison products. Persons who have been addicted to alcoholic excess, possess a greatly lowered resistance against all forms of infections. In all septic and suppurative cases, he has found nothing but good from withholding alcohol. Convalescence is not aided by the administration of stimulants, and he regards it as of no value for such a purpose. In the matter of surgical shock, alcohol does not possess the value of the horizontal position, rest, external heat, morphia, and perhaps strychnia. When given by the mouth, it is not more valuable than hot water, and per rectum, is not much better than normal saline solution. Making all deductions, alcohol has a slight value, in small quantities, in the treatment of shock. He is of the opinion that alcohol does harm to patients with cancer. It seems to increase the activity of the disease, and it adds to the patient's pain. In some cases, alcohol given with the morphia at night, may secure better sleep than would the morphia alone. In cases of cancer, where the person has been accustomed to the use of stimulants, it may not be well to break off the habit.

James Edmunds, M.D., M.R.C.P., senior physician and consulting physician to the London Temperance Hospital, from 1873 to 1902, shows

that the alcoholic beverages consumed in Great Britain now cost $945,000,000 annually. He goes on to show that, if large numbers are put under observation, the abstainers average better lives than the moderate drinkers. In a life company, doing business with abstainers and the general public, over a period of 36 years the expected deaths, among the abstainers, should have been 8,838, whereas they were only 6,300; but among the general insurers, out of an expected death rate of 11,727 there were actually 11,241. He proceeds to examine the subject under the headings: A food provides the store of energy, a stimulant provokes expenditure of energy, a narcotic restrains the expenditure of energy. He regards a stimulant as a whip, as an exhauster of energy. Strong spirits, undiluted, injure the body at the points of entry, the mouth, the throat, and the stomach, and after entering the blood, the liver and kidneys, If to 1,000 parts of an animal's body weight 1.5 to 3 parts alcohol be given, the animal becomes very drunk. With 6 parts alcohol, the breathing and circulation are so paralysed that the animal rarely recovers. The lungs, skin, and kidneys eliminate much of the alcohol unchanged. Alcohol is neither food nor a stimulant, it is a true narcotic. When it appears to act as a stimulant, it is only by paralysing some inhibitory nerve energy.

In the above opinions there is a close agreement in the main. Between Sir Samuel Wilks and Sir W. H. Broadbent there appears to be a divergence of view in the case of children. The former regards "repeated doses of brandy or spirit of wine in cases of wasting in children —the so-called marasmus—as having sometimes marvellous effects." The latter remarks that "it may be said at once that alcohol has no place in the treatment of weakness in childhood." In this, however, the difference may not be great, as they may not have the same conditions in view. Sir W. H. Broadbent seems to refer to these cases of debility and anæmia met with in childhood, while Sir Samuel Wilks is no doubt thinking of the severer conditions encountered in mucous disease, chronic diarrhoea, rickets, congental syphilis, or tuberculosis. Sir W. H. Broadbent speaks of 6 to 8 oz. in pneumonia, and a larger quantity in septicæmia. Pearce Gould on the other hand says, "Of all the bad uses to which alcohol is often put, none is worse than its employment in any form of infective disease." While Sir W. H. Broadbent says, "The above quantities may be given, many cases do well without;" and in this he is in substantial accord with Mr. Gould. The administration of alcohol would appear to be reaching a settled state of opinion. The tendency of the above opinions is to limit the employment of alcoholic stimulants in the treatment of disease.

INFECTIOUS DISEASES AMONG SCHOOL CHILDREN.*

By CHARLES SHEARD, M.D., C.M
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THE subject of this short paper is "How to prevent outbreaks of infectious diseases among school children, and the best methods to adopt tending to limit and suppress these diseases."

Bacteriological investigations into the cause of diphtheria have contributed considerably to elucidate the methods by which infection may be brought and the nature of that infection *per see.* This disease as most of you know, has been demonstrated by Professors Klebs and Lœffler to be due to a special micro-organism commonly called the Klebs-Lœffler Bacillus. It is a low form of vegetable life capable of re-producing itself with great rapidity under favorable conditions, demanding however certain special forms of food for its sustenance and growing upon a soil or medium very similar in conditions to those favorable to low forms of vegetable life; and whilst the contagion in other infectious diseases has not been so exhaustively studied there are fairly good reasons for assuming that in the majority of instances they are governed by the same physiological laws.

As an introduction to the subject, it would be important to consider some of the reasons which render children more susceptible to contagious diseases such as scarlet fever and diphtheria than adults. The conditions of child life and the habits of children largely account for this. It is certainly true, that outbreaks of these contagious diseases are much more prevalent during school terms than during vacation, and seasonal influence so much dwelt upon by statisticians of various countries should not be considered apart from the school room, which is operative during such seasons when these diseases are most prevalent. Children in schools are brought into more intimate contact than adults are in any walk of life and they remain in contact for a much longer period of time, often being crowded into a room the ventilation of which probably is not of the best. They sit in close contact, they communicate in a much more intimate manner than the conventional adult would, and with childlike confidence and simplicity interchange not only their garments, caps, mufflers, coats, and sometimes wraps, but even their toys, girls sometimes their chewing gum. The mouth organ, the kazou, the rubber judy squeaker, whistles, pea shooters, string, stick candy, and the like, are often found among the contents of a child's pocket. The methods in which children use lead pencils, wetting one end to mark with, chewing the other in

*Read at the recent Conference on School Hygiene, Normal School, Toronto.

"maiden meditation, fancy free"; cleaning their slates sometimes not in accordance with sanitary regulations, interchanging books, and a common drinking cup, will be sufficient to indicate to an ordinary reflective mind that if these diseases are dependent upon organisms which are lower forms of vegetable life and amenable to influences similar to those affecting higher forms of vegetation, seed, soil, and season; these are certainly splendid opportunities for the seed to be disseminated if seed exists.

In addition to the above, there is another very important and altogether different side to the question, and one which is so frequently operative through the medium of the school. I refer to mild cases of these diseases which possibly have proceeded without having been seen by any medical attendant, which have never been suspected by parent or teachers and which constitute in the school-room a fruitful and continuous course of infection, operative sometimes for many weeks, and which is, in my opinion, unquestionably the source of epidemics in schools in 99 per cent. of cases, and is frequently overlooked whilst the teacher, and even the sanitarian, proceeds upon a tour of investigation in the drains, the ventilation, and the cellars. I could furnish almost numberless illustrations of this, every medical man who has had anything whatever to do with school infection is aware how often a mild case of scarlet fever, never diagnosed, never treated, never suspected, has returned to school in the stage of desquamation, spreading the disease broadcast. The same can be said of sore throats, sometimes very simple sore throats, so mild that no doctor was required, with, however, sufficient exudation, and secretion issuing therefrom, teeming with the specific micro-organisms of diphtheria, furnishing seed enough to infect the school and lead to its closure; and worse than all, the child with dirty nose, with nothing whatever the matter with it only a dirty nose, with chronic ozaena or a sero-sanious ichorous discharge which even the medical man is apt to over-look, is the most venemous of all because when the child sneezes as it often does or coughs or wipes its nose upon its cuff, it scatters this infection upon book, garment, playmate, everywhere.

If these are facts the lines upon which they must be overtaken are clearly indicated. The mouth toy must be banished from the school; space and air and sunshine provided for the child in the schoolroom; the the teacher must be instructed and educated up to the point of recognizing the indication of contagion in children; and the school children must be inspected by a competent medical inspector whenever contagious disease appears amongst the scholars.

To cover this work in a practical manner is not always simple. It requires a recognized system and money. Municipalities generally incline

to the opinion that money for the ordinary sanitary work of inspection is waste, yet as a matter of fact there is no expenditure in connection with municipal economics which yields a larger and more direct return. Moreover, the Health Department and Inspectors must work in harmony with the Educational Board and school teachers, for the latter, when rightly informed upon ordinary health matters, constitute the strongest ally a Health Department can have. Every case of contagious disease must be promptly reported to the Health Office and the case as promptly followed up. The scholars exposed or domiciled in the infected house must be rigidly excluded from school during the incubation period of the disease and until such time as they can be certified to as no longer liable to convey the disease, and this certificate must be furnished by the officer who alone is personally responsible for controlling the epidemic. How frequently we see medical practitioners imperfectly informed as to the details and conditions of an individual case, sometimes actuated by the desire to meet the convenience of influential or wealthy patrons, furnishing certificates which are not always consistent with opinions usually entertained by physicians. In Toronto, I am happy to say. that with the co-operation of the School Board we have in the past been able to maintain the position that no child of a family wherein there has been contagious disease can be permitted to return to school without a certificate authorized and signed by the Health Officer. The ordinary contagious disease Inspector has, furthermore, instructions to report instantly to the principal of the school where the child has attended, and must ascertain for himself that no members of the infected family are in attendance at school, and if such children are found so to be, to remove them, and it is almost a daily experience that such supervision and constant watching is necessary. A full and complete record of the school bearings in every known case should also be kept. Such record must show the scholar's name, the room the pupil was in, when the child last attended school, where the other members of the family reside, and how the case is being handled, so that at a glance the supervising officer can judge accurately of the situation. The teacher also must be informed. and I am strongly of the opinion that at every teachers' convention, and on all occasions where school teachers assemble for the purposes of mutual improvement and the comparing of notes as to teachers' methods, time should be allotted for practical addresses upon ready means of detecting the various contagious diseases and instructing teachers as to what they would be justified in regarding as suspicious and important to refer to the Health Officer of the district, or his medical assistants, with the object of determining the existence or non-existence of infection.

In the City of Toronto, I am free to say that school teachers are well abreast of the times in this particular work, but I hope, with increased opportunity, they will become still more expert in this invaluable and practical field of usefulness. Not only is this important in connection with those diseases enumerated within the Public Health Act, but also in connection with some of the lesser forms of infectious diseases, such as ringworms, impetigo contagiosa, scabies, and the like. The School Board must also be educated up to the point of realizing the necessity of placing within the grasp of the child physical as well as mental force. Despite all that modern sanitarians have done, and are doing, how little some of our responsible bodies realize the value of fresh air and sunshine in the development of the physical life of a child. Shorter school hours and longer vacations are commensurate with brighter faces and clearer intellects. That homework and punishments which add to mental worry and fatigue make dull scholars duller, and bad ones worse; that the beauties of nature, the fields and the flowers have as much in them to admire as a monument raised to the vanity of a teacher who has taught his pupil to tell the time of the clock by algebraic equation; to know that basements were never made for school rooms; that the greater part of a child's life is spent in school; that his associations for all future time will date from that particular period and its associated memories, his school days should be as happy as it is possible for man to make them. Fresh air in abundance, freedom from odors, the best system of ventilation, light on every hand, with desks and lockers that will, as far as possible, secure and maintain independence in each pupil and his belongings, are, in my opinion, the rights of the scholar.

I have had in the past the audacity to suggest that some children would be helped by being cleaned and clothed and have been laughed at for my temerity but if those whom I am now addressing have seen some scholars as I have seen them, who have been compelled to attend school and sit with others whose odors mark their nationality as well as their family connections and stigmatize their home surroundings, they would believe with me that there was more force than fiction in the suggestion. The Provincial Board of Health last year very properly provided for the personal inspection of every pupil and every absentee where a case of scarlet fever or diphtheria appeared amongst the pupils of a public school. I will not say that in Toronto that has been done with mathematical exactness because we have over 30,000 school children to supervise, but I am proud to say that the work has been done in the spirit and with the assurance that it would prove satisfactory to all who

care to study our methods. The medical inspector is required to make constant and repeated visits to the school room for the purpose of detecting by a skilled medical examination the existence of latent disease or overlooked infection amongst the pupils ; furthermore, to examine the absentees with a view to definitely understand the report, inform the cause of such absence so that the reason for the non-attendance of such at school will be on fyle in the Health Office.

We must not forget that parents are compelled to send their children to school, and it is the bounden duty of the health authorities and the municipality to see that every security is afforded them to avoid contact with infectious diseases.

SYSTEMATIZED COMPULSORY DRILL.*

By C. A. HODGETTS, M.D., C.M., L.R.C.P., Secretary Provincial Board of Health.

AT the outset of the paper reference was made to the marked attention hitherto given by educationists generally to the development of the mental qualities of the child to the apparent neglect of his physical development, with the consequent result that the sound mind and the sound body were not always found in the possession of the same individual.

The pendulums of both educational and public opinions are swinging, and we were convinced of the fact that life's battle is not always to the mentally strong, and a good physique was necessary in fighting life's battle and the two were not incompatible.

It was pointed out that the age of growth was the proper time to begin some form of physical education and drill, and that if this was carefully carried out under properly trained instructors, the result would be beneficial both to the brain and to the body.

For the purpose of carrying this out some fifteen or twenty minutes of each hour of the present school time should be spent by the child both in play exercises and drill.

For purposes of instruction it was suggested that the work might be placed in charge of the officers and non commissioned officers of the Permanent Militia of Canada, and all those who desire to qualify for commissions in the militia force should be required to instruct the youth of this province for a certain period before receiving their commissions. Further, it was claimed that a portion of each summer vacation might be spent in camps of instruction where the time could be taken up between sports, boating, swimming, drill and rifle practice, The cost of this latter form of instruction would not be great and might justly be borne by the Dominion Government.

The general idea of the writer was to express the fact that some form of physical education was necessary as a part of our educational system, and incidentally the rudiments of a military education were inculcated.

*Abstract of a paper read at the recent Conference on School Hygiene, Normal School, Toronto.

CURRENT MEDICAL LITERATURE.

MEDICINE.

Under the charge of A. J. Mackenzie, B.A., M.B., Toronto.

HAY FEVER ETIOLOGY AND TREATMENT.

In *The Canadian Practitioner and Review*, January, Henderson late of Toronto, now of Prague, gives a resumé of the work which has been done by Dunbar, of Hamburg, in the study of this peculiar malady.

The fact that attacks are associated with the presence of pollen in the atmosphere had long ago led to the view that this was the causal factor, although the fact that the majority of persons were quite immune to this germ of irritation, gave support to the theory that some other agent should be considered.

Examination of a variety of flowering plants and grasses showed that the pollen of some gave rise to the symptoms of hay fever, while others were innocuous. To the first class belong "secale cereale," rye, barley, wheat, tea maize, Indian corn, lily of the valley, golden rod, and ragweed, while a negative result was given by rose, tilia ulmfolio, linden, artemesia, abaesithium, warmut.

It was found that from certain parts of the pollen grains a substance could be derived which acted as a specific toxin of hay fever when applied to the mucous membrane of a susceptible person; this toxin was derived wholly from the "amyloid rods" in the outer coats.

It was found possible to elaborate an anti-toxin by the treatment of rabbits with the toxin, such that by its use the effect of the toxin was neutralized either by mixing the two substances before injection, or by injecting them separately. Moreover, in a number of cases of hay fever this anti-toxin was found to give excellent inhibitory or curative effects, but further work on this phase of the subject must be done before we can regard this new product as a specific.

A CASE OF HYDROPHOBIA.

In the *Columbus Medical Journal* for December, Hulse reports a case of hydrophobia in a girl of 14, resulting fatally after an interval of two months from the bite of a pup. There was noted in this case :—

1. The evil forebodings for weeks in advance of any other symptoms.
2. The peculiar stinging with congestion in the wound.
3. The intense hyperhidrosis, clothes wet.
4. The fact that ice can be used to allay thirst when water cannot.
5. The marvelous power of bromidia in controlling the convulsions and inducing sleep.

EHRLICH'S DIMETHYL-AMIDO-BENZ-ALDEHYDE REACTION IN URINE.

It has been suggested that the test with this reagent is a point of value in the treatment of tuberculosis, but Clemens, in the *American Journal of Medical Sciences*, opposes this view. From his clinical examinations it was found that while the reaction never appeared in health, it was commonly seen in acute gastro-intestinal affections of an inflammatory nature. Positive reactions are most commonly found in tuberculosis, but is found also in the non-tuberculous. It is not due to the presence of the body which gives the diazo reaction, but common to all cases seems to be an increased catabolism of tissue albumins.

A NEW DIABETES THEORY.

In the *A. M. A. Journal*, Feb. 6th, Ramus advances a new theory of diabetes. His conclusions from experiment differing in some respects from the views of other observers:—

1. That in normal blood dextrose undergoes chemical modification before absorption by the tissues.
2. That in normal blood alcohol develops from disintegration of dextrose.
3. That alcohol is present in minute quantities in the urine of total abstainers.
4. That in chemically pure solutions of dextrose and levulose treated with pancreatin, sugar is lost and alcohol (and carbonic acid ?) developed, the change being more marked in the case of levulose.
5. That the agent responsible for the chemical reaction is an enzyme normally present in blood.
6. That this enzyme has its origin in the pancreas alone, for when that organ is removed dextrose remains unchanged.
7. That interference with or disturbance of this function of the pancreas initiates a group of phenomena known clinically as diabetes mellitus.

ANALYSIS OF GLUTEN FLOUR.

The *New England Medical Monthly* describes the results of an analysis of these preparations by the chemist of the New Hampshire State Board of Health. The chemist of this department who made a careful examination of fourteen preparations of gluten flour now on the market was able to find in most a large percentage of carbohydrates, that is, the smallest ratio was 7.8 per cent. while the largest was 75.25 per cent.

In commenting upon these facts, he states: "Our results agree with other published analysis in showing that many of the so-called diabetic foods, or gluten flours, are of the same composition as whole wheat or Graham flour, and carry but little less starch than ordinary white flour. Some of the highly recommended and widely advertised 'Diabetic Flours' consist solely of whole wheat flour, and by reckless misstatement and deliberate fraud are sold at enormous prices as a cure for diabetes. The action of these manufacturers becomes not only fraudulent but even criminal when we realize that these goods which are sold to invalids are backed up by the most absurd claims for usefulness and are hereby used freely with positive detriment to the sufferer."

WINDS AND LUNG DISEASES.

In the February number of the *St. Louis Medical and Surgical Journal*, Swayne calls attention to the fact that high and persistent winds are followed by an increased mortality from phthisis and other lung diseases. The reason for this is to be found, not in the wind itself, its temperature or velocity; but in the fact that when the wind is high, windows are kept shut, ventilation is interfered with and the blocking back of the air on chimneys and flues causes the escape of toxic and nauseous gases into dwelling-rooms with the result of reduced vitality and resisting power and consequent illness.

SOME LAWS IN MEDICINE.

In the November number of the *Physician and Surgeon*, Cutter gives some useful therapeutic hints. "Hearty food is for the heart" and so in cases of enlarged or failing heart give beef and beef essences, as much as the patient can make use of, giving more power and reducing fibrin elements in the blood, and not providing fermentation debris. To give sedatives to a heart already overwhelmed and engorged, the writer thinks is faulty therapeusis.

SCARLET FEVER PROTOZOON-LIKE BODIES FOUND IN FOUR CASES.

In the January number of the *Journal Medical Research* Mallory, of Harvard, describes the finding of certain protozoon-like bodies in the skin of a boy who died forty-eight hours after the first appearance of the eruption of scarlet-fever. These bodies were found in the protoplasm of the epithelial cells of the epidermis, between these cells, and free in the lymph-vessels and spaces of the corium just beneath the epidermis, they varied in size from two to six or seven microns in diameter and are devisible into two groups, certain oval or elongated and lobulated bodies staining with methylene blue, the second group are distinguished by their radiate character, usually spherical the centre staining a dark blue.

Three pieces of skin were preserved from the case, from thorax or abdomen and extremities, and from these it is seen that whatever these bodies are, they are not easy to find, as only one piece of skin showed them in any number.

In six cases where death occurred early in the disease they were not found at all, while in a number of cases in the desquamative state they could not be found.

These bodies can be interpreted as artefacts, degenerations, or protozoa, the fact that while all the specimens were treated in the same way, they were found in only one, in any number, argues against their being regarded as artefacts, while the fact that they were found in various parts of the epidermis seems to show that they were not due to degeneration.

Should the writer's theory be supported by future investigations, he suggests that the name 'cyclaster scarlatinas' might be given to them.

SURGERY.

Under the Charge of H. A. Beatty, M.B., M.R.C.S., Eng.
Chief Surgeon Canadian Pacific Railway, Ontario Division, Surgeon Toronto Western Hospital.

PERITONEAL SALINE INFUSIONS IN ABDOMINAL OPERATIONS.

In the Journal of the *American Medical Association*, January, a paper on the above subject is contributed by John G. Clark and Charles C. Morris. When infectious micro-organisms are introduced into the peritoneal cavity, the lymph and leucocytes which are normally present, as a circulating peritoneal medium, at once assume a combative rôle. An immediate increase of leucocytes is noted; but after a few minutes these are transported into the general lymph paths, and for a

short space of time there is a marked deficiency of leucocytes. Then an exaggerated peritoneal leucocytosis is noted, the intensity of which is in direct proportion to the degree of the irritation. Thus a very irritating fluid, such as turpentine or glycerine, may give rise to so profuse an exudation of serum and escape of leucocytes from the blood ves-els into the peritoneal cavity as to actually cause the animal's death through excessive depletion.

In experimental infections of the peritoneum, the index of lethality may be judged by the varying degrees of leucocytosis. Thus an excessive degree of leucocytosis followed by a rapid decrease with increasing gravity of symptoms indicates that the toxicity of the micro-organisms has overcome all phagocytosis or germicidal action of the blood serum, and that there will be a fatal result. Not only on the quick delivery into the peritoneal cavity of serum and leucocytes, but also on their rapid exit depends the safety of the patient in the first stages of peritoneal infection. There are no blood vessels within the body capable of such quick action in this physiologic function as those circulating in the omentum, in which wide-spread capillary anastomosis of extremely thin-walled vessels provide the best anatomic conditions for the rapid escape of leucocytes and serum into the peritoneal cavity.

If there is this excessive peritoneal leucocytosis after an infection, or from traumatic or chemical irritation within the abdominal cavity, the blood examination after an abdominal operation should serve as an indicator of this phenomenon. Already clinical observations have proved the constancy of the increased leucocytosis after even a minor abdominal operation. The greater the leucocytosis within twenty-four to thirty-six hours after the operation, the more likely is the infection to be over come. The greater the leucocytosis, the more quickly will the peritoneal irritation or infection be subdued, unless it is so lethal as to overcome every combative force of the animal economy, as is seen in some very lethal cases of steptococcic infection. It is found that in animals, even the light flushing of the peritoneal cavity with hot salt solution will invariably produce a general leucocytosis.

In their laboratory experiments, the writers found that peritoneal saline infusions saved 44 per cent. of the animals, into whose peritoneal cavity a minimum lethal dose of virulent staphylococcus aureus had been injected.

From their clinical and laboratory studies, Clark and Morris reach the following conclusions: 1. The use of salt solution does not increase, but unquestionably minimizes, the dangers of pyogenic infection. 2. In addition to the reduction of mortality, the convalescence of the patient

is rendered infinitely more comfortable and satisfactory through the reduction of thirst, the increase in the urinary excretion, and the minimizing of vesical irritation. 2. The salt infusion should not be employed in those cases in which absorption by the peritoneum is greatly impaired, as in certain conditions accompanied by ascites, in ruptured extra-uterine pregnancy in which the peritoneum is already overtaxed with the removal of hemorrhagic debris, and in cases in which there is a considerable pus-producing focus left in the peritoneal cavity. In cases of localized abscess in any part of the abdominal cavity, which may be evacuated effectually by the usual surgical drains, it should under no circumstances be broken up and thus throw the danger of infection on the general peritoneal cavity. 4. In all cases where the abscess sac may be extirpated completely, peritoneal saline infusions should be employed, and surgical drainage by gauze or tubes discarded.

FRACTURES OF THE RADIUS.

In the December number of the *University of Pennsylvania Medical Bulletin,* Hobensack discusses the treatment of fractures of the radius between the insertion of the pronators and with these conclusions.

(1). In the treatment of any fracture, the best result cannot be obtained unless the part be dressed in that position in which reduction of the fracture can be maintained. In other words, the muscular action must be carefully studied, so as not to have unnecessary resistence from them.

(2) Fractures of the radius between the insertions of the pronators should be reduced and fixed with the forearm in the position which corresponds to that in which the upper fragment is found, thus obviating the tendency to displacement of the only fragment that is controlled with difficulty.

(3). The comparatively perfect reduction and immobilization secured by this method, dispose of the tendency to the excessive exudation of lymph, formation of exuberant callus, and ossification of the interosseous ligament.

(4). Judicious massage and passive motion, begun early, favor prompt union and restoration of function, although they do not always entirely prevent temporary atrophy, loss of power and decrease of the mobility of the part, as no manipulations can thoroughly compensate for the natural exercise of the tissues which is a major factor in the processes of nutrition and absorption.

CIRCUMCISION.

Bransford Lewis, in the *International Journal of Surgery*, January, describes a method of circumcision which consists in so fixing and holding the prepuce with clamp and tractor, that the suturing may be done with ease and accuracy *before the cutting*; and but one cut suffices.

The older and most usually employed operation for circumcision requires four successive cuts, viz.—1. Removal of the redundant cuff of skin and a part of the mucous layer. 2. A dorsal slit through the mucous layer. 3. Removal of the left side of the mucous layer, and 4. Removal of the right side of the mucous layer, with, finally, the suturing of the skin to the mucous layer, by placing, without efficient support, one stitch at a time. In his operation, Lewis places the stitches, two at a time, and guides them with precision by the clamp.

The technique of Lewis' operation is as follows: Encircle the penis at its base with a rubber band, then, with the penis and foreskin relaxed mark the site at which the removal is to be made, about one-quarter inch in front of the corona glandis. In this site at the middle of the dorsum, insert a sharp hydodermic needle and insert *one drop* of a four or five per cent. solution of cocaine, withdraw the needle and at the same point make a slight incision with a very narrow bladed bistoury just large enough to permit the entrance of the blunt pointed hypodermic needle, through which the remainder of the cocaine solution is injected. This needle is first made to encircle the penis as far as the frenum on one side, running between the skin and mucous layer of the prepuce, the solution being deposited as the needle is withdrawn. It is then re-introduced through the same incision and passed to the frenum on the opposite side, and the solution is again injected as the needle is withdrawn. In this manner a complete ring of cocainized tissue encircles the penis at the exact site for the introduction of sutures and the subsequent cutting. Complete anaesthesia is accomplished in about one minute and systemic absorption of cocaine is prevented by the rubber band previously applied at the base of the penis.

An assistant now adjusts and holds the tractor in position, its long arm reaching well into the sulcus and its short arm resting against the frenum. The assistant pulls the prepuce well forward and prevents it slipping off the tractor by holding it with the thumb above and forefinger below.

The clamp is then applied and compresses the four layers of the prepuce together in front of the glans penis and behind the end of the tractor. Double length sutures (16 or 18 inches each) of catgut or silk

are inserted through the fenestra of the clamp, at intervals of one-quarter inch. They are passed through the fine layers of the foreskin and usually five sutures are sufficient.

When all the sutures are adjusted, that part of the prepuce anterior to the clamp is cut off with scissors. This is all the cutting required. While it is being made, the assistant should slightly relax his traction as it is desirable, not to cut too close to the clamp and leave too narrow a margin for the sutures.

The tractor is removed with the redundant foreskin, and the clamp, which allows the sutures to slip through the open ends of its fenestra, is also laid aside.

The sutures are now caught up in a bunch with two forceps at their outer ends, and with two others at their middle, between the two opposed layers of mucous membrane. Here they are drawn up and cut, leaving two sets of sutures, one passing through the skin and mucous membrane on the right side, the other set having a similar position on the opposite side. Two additional sutures are now placed, one at the dorsum and one at the frenum.

The rubber band surrounding the penis is cut, and all bleeding vessels are caught and tied with small sized catgut. All sutures are now tied and the resulting stump is even and symmetrical. A dry dressing is then applied. Lewis encircles the penis with a piece of cotton enclosed in a layer of gauze, and then saturates this dressing with compound tincture of benzoin, applied with a medicine dropper; on drying, this forms an antiseptic splint. The dressing is renewed after three or five days, and in eight days the parts are usually securely healed and no dressing is needed except some dry dusting powder.

It is not usually necessary for the patient to suspend work or lay up after the operation.

GYNÆCOLOGY.

Under the charge of S. M. Hay, M.D., C.M.,
Gynæcologist, Toronto Western Hospital; Consulting Surgeon, Toronto Orthopedic Hospital.

SHOULD THE UTERUS AND OVARIES BE REMOVED IN OPERATING FOR DOUBLE PYOSALPINX?

Carlton C. Frederick, B.S., M.D. of Buffalo, writes in the November number of the *American Journal of Diseases of Women and Children*, on the above subject as follows: Whether to remove all of a woman's sexual organs, at the time that it became necessary to remove both tubes

for pus, has been a mooted question since surgical gynælcology has begun its modern development.

The woman who has a pair of pus tubes is, as a rule, an invalid. Some are able to be about and attend to small duties of their vocation. Pain is an almost constant symptom, and that alone, on physical exertion, serves generally to confine her to her couch a greater part of the time. Some cases suffer less severely. Fever, emaciation and anemia are common to a large percentage of them. Occasionally we have severe cases with no fever, headache, or general emaciation. Sterility and suppression of all sexual feeling are the rule, and when the inclination does exist, the pain produced by coitus is well nigh unbearable. Dysmenorrhœa is almost universal; and, if it existed before, it is certainly aggravated by the disease of the tubes.

Too frequent, too profuse, and too prolonged menstrual flow are common. Leucorrhœa is a prominent symptom in the early history of the disease, but is not so marked in cases of long standing.

The history of operative procedure in these cases has passed through three quite well-defined periods. Tait and his followers, for several years, removed both tube and ovary through the suprapubic incision, leaving the uterus. In making a pedicle common to both tube and ovary there was of necessity a portion of the proximal end of the tube left behind. Many of these patients were cured, others were not. Some of the uncured ones returned and had the uterus removed and a cure resulted. The natural inference was that the uterus was the offending organ, while in reality it was the remaining portion of diseased tube that continued the trouble. Hence arose the teaching, that the uterus should be removed with the diseased appendages.

Then the French School resorted to vaginal operation for pus tubes, removing every vestige of uterus, tube, and ovary, whether it was necessary or not. Dr. Frederick, says: "I have sat in the clinic of many a noted operator and have seen a comparatively healthy uterus and both healthy ovaries removed by vaginal section for a salpingitis of one side, and sometimes there was no pus in either tube. This extreme procedure went on till the fashion of vaginal section began to wane, and the right-minded operators began to return to the abdominal route."

The physiological effect of total removal of the pelvic organs is an enforced menopause with its train of nervous symptoms. The younger the woman, the more intense these symptoms are, and the older she is, that is, the nearer she is to the normal age of the natural menopause, the less severe are those symptoms.

Then came the present conservative method of treating diseased tubes and ovaries, and in double or single pyosalpinx we must resort to complete exsection of the tube, or tubes, in order to arrest the disease. By this is meant complete removal of the tube and corner of the uterus down to the uterine mucosa, closing the V shaped chasm in the corner with catgut and whipping over the free edge of the broad ligament out of which the tube has been stripped. It is as unsurgical to leave a part of the diseased tube as to leave a part of the diseased appendix.

With both tubes removed, the woman is sterile. So she was before operation. Besides, she was sick and suffering pain at all times, and especially at menstruation. Removal of her diseased tubes will cure her pain and her dysmenorrhœa, that is, if she is not normally subject to painful menstruation. Although sterile, every woman during the child-bearing period should have her menstrual function preserved to her. Its loss is prejudicial to her well being. Therefore, we should not remove the uterus if it can be retained; we should not remove any more ovarian tissue than necessary, but we should remove the tubes *in toto*.

THE DANGERS OF DELAY IN OVARIOTOMY.

In the *Bristol Medico-Chirurgical Journal*, of December, 1903, T. Carwardine, M.S., M.B. (Lond.), F.R.C.S., writes an interesting article on the above subject. Delay on the part of the patient is permissible, though unwise; but delay on the advice of a member of the profession is usually inexcusable, when once the diagnosis of an ovarian cyst is made.

The question to be discussed here is this: Once an ovarian cyst is diagnosed, is it safe to defer operation? He illustrates the dangers of delay by referring to cases.

1. The size of the tumor becomes in time an element of added danger, through (*a*) pressure effects, (*b*) increased difficulty in operating, and (*c*) increased shock.

2. Inflammation is more likely to occur in large than in small ovarian cysts. This may result in peritonitis, with adhesions, or in a suppuration, which is a serious complication, and renders the patient extremely ill. Here the adhesions become very general and extremely firm. Occasionally, a suppurating cyst has been known to burst into the bladder, bowel, vagina, or even through the parietes. Fæcal infection is a danger to which all fluid collections contiguous to the intestines

are liable; and, in the case of infection of a large ovarian cyst, the symptoms soon assume a grave aspect.

3. The mobility of a cyst may cause serious consequences. The symptoms of torsion of the pedicle closely resemble those produced by intestinal obstruction, except that stercoraceous vomiting is unusual, and attacks of pain and vomiting accompanying a tender abdominal tumor, are conspicuous features. Torsion may merely cause a venous obstruction at the site of constriction. At this stage, hemorrhage usually takes place into the cyst, which may be so great as to cause its rupture or the death of the patient. Finally, the arterial circulation is also arrested, and the parts beyond the level of torsion become a blackened mass. This is usually described as gangrene; but, unless infected, the mass does not present the characters of moist gangrene, and there is no stench; and, as adhesions form during the process of strangulation, a certain amount of nutrition is provided by them. Strangulation is the effect of persistent torsion, and results in a necrotic appearance of the parts involved, which become swollen, succulent, and rotten. A tumor may be completely separated from its original attachment by torsion of its pedicle, and become transplanted by adhesions to a distant part of the abdominal cavity. In this case, the original association is apt to be overlooked or forgotten.

4. Intestinal obstruction may be another result of delay in the removal of an ovarian cyst. It may arise from (*a*) direct pressure, from (*b*) adhesions between the cyst and gut, or from (*c*) strangulation by the pedicle of a cyst crossing the axis of the bowel in some peculiar manner.

5. Changes in the cyst wall are rupture, malignancy, and calcification. Rupture may result from injury, strain, or over-distension, and may be repeated after the cyst has refilled. Malignancy of the wall of an ovarian cystoma, or of the matrix of a solid tumor, needs no argument for its early removal. Calsification of the wall is a rare, secondary change, which has occasionally been met with.

6. Adhesions become very serious obstacles to the removal of old and large ovarian cysts. The vermiform appendix is frequently involved in adhesions, and then should be removed.

Even in pregnancy, there is considerable danger in delaying the removal of an ovarian tumor. There is a risk of the tumor obstructing delivery, or rupturing during its progress.

From the foregoing considerations, it is a reasonable rule of advice, that, under all ordinary circumstances, an ovarian tumor should be removed as soon as diagnosed, and that delay is dangerous.

X-RAY THERAPY AND SKIAGRAPHY.

Under the charge of JOHN MCMASTER, B.A., M.D., C.M., Toronto.

FINSEN LIGHT AND X-RAYS COMPARED.

Dr Jay F. Schamberg, *St. Louis Medical Journal*, January, 1904, gives results of treatment of a number of skin diseases with actinic rays of light and with x-rays. 111 cases in all were treated, of which 57 were treated in the Light Department of the Philadelphia Polyclinic. The apparatus used in the Poly clinic was that brought from London by Miss Kirkbride. This lamp is a modification of Lortet and Genoud apparatus. This lamp differs from the original Finsen's lamp by requiring only 15 to 16 amperes at a pressure of 110 volts, whereas the Finsen's lamp requires about 80 amperes. In both the lenses are kept cool by a current of running water passing between them, and the heat is further absorbed by passing the radiation through lenses of rock-crystal. The parts to be treated are rendered anæmic by pressure exerted by lenses that do not absorb or abstract the ultra violet or actinic light. The red blood forms a screen which absorbs the actinic rays and prevents them penetrating to the deeper tissues.

At the Polyclinic the lamp has been used since March, 1903, and some 880 treatments given to 12 patients. The treatments which at first were 30 min. were extended to $1\frac{3}{4}$ hrs. each. This was found necessary to obtain reaction and reach deep tissues. The results with this apparatus have been unsatisfactory, none having been cured of the 12 reported, although improvement has occurred in some. The cases were on the whole of long standing and inveterate. The treatments were carried out by Miss Kirkbride who had opportunity to observe the technique used in London. The formation of the lenses enabled large areas to be treated at each seance, whereas with the Finsen lamp only an area of a square centimetre could be covered. The failure is attributed to want of concentration and volume of the radiation. In the Finsen lamp the volume of the actinic light is much greater and it is concentrated upon a very small area, thus penetrating the affected parts to a much greater depth. The results with the Finsen light are very gratifying. These failures only emphasize the insufficiency of the multitude of simplifed lamps that are being foisted upon the public. It is found that pigmentation does not occur to any extent in diseased skin. Healthy skin, however, is rapidly pigmented. It is thought that the

lamps of the Lortet-Genoud pattern may be of service in the very superficial cases. The Paris physicians claim to have had a measure of success with it; its limitations are however recognized in London where it is used only on the very superficial lesions, the Finsen lamp being used on the more deeply situated nodules. This actinothorapy is chiefly used in treating lupus vulgaris and erythematosis. Tubercular ulcers, rodent ulcers and acne vulgaris have been cured by the Finsen light but more uniformly successful results are attained by the x-rays. Finsen has cured 30 cases out 49 of alopecia areata. In 18 cases treated by Hyde & Montgomery with the modified lamp no result was noticed in 13.

ACTION OF FINSEN LIGHT AND X-RAYS COMPARED. The actinic rays produce in a few hours distinct reaction characterised by erythema and vesiculation. The blisters heal in about a week. Repeated treatments render the skin less easily affected and blisters result only after long treatments. A distinct bactericidal influence is exerted. Subcutaneous tissues are not affected. The very opposite is true of x-rays. The effect of x-rays is cumulative, the parts treated becoming more and more susceptible. The rays penetrate deeply affecting not only the skin but the subcutaneous tissues and internal structures. They are not bactericidal. Improvement rapidly follows the reaction by actinic light; it is slow in making its appearance with x-raying but may continue for a long time after their use. Curative changes may take place without any evidence of inflammatory action from x-rays.

In lupus the comparative value of x-rays and Finsen light is about the same, the cosmetic effect being in favor of the x-rays. No method of treatment in vogue can approach either. Some cases do better on one and some on the other method of treatment. The light has the disadvantage that every treatment produces a dermatitis lasting a week or more. This is inconvenient to the ambulant patient who is obliged to wear some dressing. The light can only be applied to small areas and takes considerable time at each sitting. Extensive areas can be treated in a few minutes by the x-rays; such cases are cured in a few weeks by the x-rays, whereas many months are required by the light. Both treatments are painless but considerable soreness results from each light treatment. Lupus of the mucous membranes, especially of the nose and mouth, cannot be satisfactorily treated by the Finsen light. It usually responds rapidly to x-rays. Ulcerative lupus precludes the use of Finsen light but reacts well to Roentgen rays Both agents are of great value and should be used to supplement each other. Time will better determine the special indications for each.

X-RAYS IN EPITHELIOMA. 27 cases were treated for cancer of the skin and mucous membrane. Statistical reports might be misleading, as much depends upon the extent and situation of the growth. A number did not remain long enough under treatment to warrant a proper estimate of the treatment, 13 of the above cases, however, were cured. Most of these were cases of superficial epithelioma about the face, two were of the lip, and one of neck deeply seated which recurred after removal. A nodular epithelioma of the lip after 8 treatments was rather larger, and the patient gave up the treatment. With deep seated skin cancers his results have not been encouraging. The rays have a special field of usefulness in small epitheliomata situated about the borders of the eyelids, the alae of the nose and in other similar regions. The destruction of tissue is small and the deformity resulting very limited. In rodent ulcers about the orbit it is the best treatment; they cannot be removed by the knife. Rodent ulcers of the orbit which would be fatal otherwise have been cured by x-rays.

ACNE AND ECZEMA. In acne the x-rays are most effectual, no other remedy at present can compare with it in treatment of this dermatosis; old as well as new lesions yield to its effect. Some new lesions may appear but they soon depart. The most rebellious cures will give good results, and what is most satisfactory in that the cures are as a rule permanent. The x-rays in proper doses seems to stimulate the normal structures of the skin to healthier activity.

In these cases soft tubes and short exposures are the requisites.

X-RAYS IN THE DIAGNOSIS OF RENAL CALCULI.

Dr. Charles Lester, of Philadelphia, in the *Brooklyn Medical Journal* discusses the advantages of x-rays in diagnosing the presence or absence of renal calculi. He has tested the accuracy in 305 cases. Calculi were found in 89 cases, 60% of these were located in the ureters. The negative diagnosis was more accurate than the positive. Errors were made in 9 cases or less than 3%. In only one of the 45 cases of diagnosis by the usual methods that were subsequently operated upon was a calculus found. This method has these advantages:—It is free from the dangers that accompany exploratory operations and catheterizations; it is more accurate and comprehensive; occasions no pain, injury or inconvenience to the patient; the exact situation and number of calculi, if seperate, are determined, rendering an operation for removal complete; the danger of operating on the wrong kidney is avoided; the field of operation is limited to locality of calculus; operative trauma decreased and rapid recovery thus facilitated; the accuracy that has been demonstrated in the

negative diagnosis makes it unneccesary and unreasonable to open the kidney in search for a stone during nephrorrhaphies or exploratory operations; the diagnosis can be made early when suspicion points to a calculus; the symptons are often vague and misleading out of all proportion to the seriousness of the case. A small quiescent calculus may form the gravest menace. Its impaction may result in unilateral anuria and the destruction of one kidney or complete anuria and the death of the patient. The symptons may subside and an anuria be present, an undetected calculus is always dangerous. The presence or absence of calculi should be determined after a suspicious attack of renal or ureteral colic. If found to be too large to be passed it can be removed at once and the kidney saved from farther injury. If its size shows that it can pass and there are no threatening symptons a course of conservative expectant treatment can be followed, such a course is reasonable when based on such exact knowledge. It has been adopted in many cases by the author and has resulted in all the calculi being passed in 19 cases. The method is not infallible, as much depends upon the accuracy of its employment and interpretation.

R-RAYS IN DEEP-SEATED CARCINOMA, SARCOMA AND TUBERCULOSIS.

In the *Journal A. M A.*, January, 1904, Arthur Dean Bevan, M. D., Professor of Surgery, Rush Medical College University, Chicago, describes the action of x-rays upon carcinoma, sarcoma and tuberculosis of deep seated organs in conjunction with the adminstration of iodine or arsenic, etc. In Hodgkin's disease he finds that the rays will cause the disappearance of the enlargements. Toxic effects follow their use in some cases, in others the enlarged glands disappear, yet no general improvement takes place and fatal results ensue after considerable time. In many cases however the results are all that can be desired. The careful use of the x-rays is therefore indicated in all cases. In tuberculosis within the abdomen, of peritoneum and intestines he has had some interesting results. One case of hyperplastic tuberculosis of the descending colon with perforation and circumscribed abscess was drained and afterwards closed by operation. X-ray treatments were given for 5 or 6 months and 75 grains of potassium iodide administered daily. Under this the patient gained 40 lbs. and resumed manual labor, the large mass about the colon disappeared; no inference can be drawn but it is supposed that the x-rays influenced the liberation of iodine in the affected region. Many cases of tubercular peritonitis with large masses and

quantities of fluid in the peritoneal cavity with rest and x-raying improved greatly, the masses and liquid both disappearing. The whole field of tuberculosis, outside of lupus, is an open one, and promising for experimentation. Sarcomas have been made to melt down and disappear by x-rays. This treatment has, however, been most unsatisfactory in his hands. Springing from the mesoblastic layer they are essentially deep seated growths. If the cells were on the surface as epithelium no doubt but the rays would destroy them as it does cells of epitheliomata, or if a great open wound were left after removal of the growth so that but little tissues intervened favorable results could be obtained. One case of a glioma of the orbit which recurred was eradicated by the rays, little or no normal tissues overlying the growth.

In recurring carcinoma of the breast in and about the scar, the rays will cause absorption of the masses even if of considerable size; and, if these are the only carcinomatous foci in the body, a cure might be hoped for with their disappearance. The deep mediastinal or other lymph glands are too often affected at the same time and the cases go on to a fatal end although the superficial enlargements are made to disappear. Some benefit both locally and generally is conferred by the raying. In estimating the value of x-rays in carcinoma three facts seem to control the results largely and ought to be considered—(1) The situation, superficial or deep seated, (2) The rapidity of growth and the resisting power of the cells in the case, (3) The size of the new growth. In regard to the first, the destructive action is in direct proportion to their superficial position, *i.e.*, the more superficial the greater the destructive power. Not much effect is exerted upon cancer cells beyond a depth of a centimetre. Cancer cells differ markedly in different cases as to their resisting power. The rapidity of growth is a fair index of their resisting power. Slow-growing cancers have less resisting powers, and rapidly growing ones high resisting powers. The size of the lesion is important and the value of the x-rays varies inversely as the size of the growth; the smaller the growth the more evident the effect, the larger the less the effect. The question whether under some circumstances the x-rays stimulate these growths and their dissemination is one which is difficult to answer, but personally he has seen no evidence of it.

He has seen cases grow and dissemination occur while under treatment, but he has seen the same thing in many cases while under no treatment of any kind. He interprets these cases which grow rapidly while under x-ray treatment as being cases which were not influenced by the agent and believes that the same growth and metastisis would have occurred with or without the raying:—

"What should be our position in regard to the use of the x-ray as a therapeutic agent in carcinoma?

"It is, I believe, the treatment of choice in slowly-growing superficial epitheliomas, the rodent ulcer type, especially those of wide extent without regional involvement, and especially lesions of this kind, situated about the face and eyelids where a radical removal of the lesion with the knife would result in marked disfigurement and deformity from the resulting scar, even when skin grafting is employed. In all other forms of carcinoma, where the lesion is of rapid growth or more deeply situated than the skin, or even when limited to the skin is of considerable thickness, the case should be treated by extirpation and followed by a course of x-ray treatments, probably, as a rule, about 20 exposures immediately after the healing of the operative wound.

"As has been repeatedly shown (especially in cases of breast amputation for carcinoma where recurrence has taken place in and about the scar), these secondary masses can be made to disappear with the use of the x-ray. There can be but little doubt that these secondary nodules, masses of epithelial cells the size of a bean or a walnut, were at the time of the operation very small collections of cancer cells which gradually grew from microscopic to macroscopic proportions, and it is reasonable to suppose that if the x-ray can destroy these bean-sized and walnut-sized cancer masses it could much easier have destroyed the microscopic masses of cancer cells from which they developed. I believe, therefore, that we should give this post-operative x-ray treatment a thorough and extended trial in our carcinoma cases, and believe that we shall considerably increase our number of permanent cures after cancer operations by this means.

"The most interesting question, to my mind, in connection with the action of the x-ray on cancer cells is this: Would it not be possible in some way to so extend the action of this agent which has the power of destroying cancer cells under certain conditions—that is, at certain depths and cells of certain resisting power—to a point where it can destroy them under all conditions? The fact that under certain circumstances, as Hodgkin's disease and lymphatic leukemia, the x-ray does produce effects on masses of cells of low resisting power at great depths, might encourage us to hope that under certain favorable conditions it might affect cancer at great depth.

"Of course, if this could be accomplished our cure for carcinoma would be found. As it is to-day, the x-ray as a cure for carcinoma has, as we have seen, a very limited field. In answer to the last question, I have thought that the desired result might be accomplished in one of two

ways, or possibly both. First, that physicists might so improve our x-ray apparatus that we could obtain the destructive effect on the cancer cells at all depths, and yet without too great danger to the intervening tissues; and, second, that it might be possible to so diminish the resisting power of the cancer cells by some means, as, for instance, the ligation of the arteries supplying the region, thus shutting off the blood supply, or by means of some chemical agent introduced either into the general circulation or locally injected, that even with the x-ray as at present developed we might obtain destructive effects at greater depths. In connection with this last proposition my mind naturally turned to iodine and arsenic as the agents which have shown evidence of power to affect deep-seated masses of new cells of low vitality, as iodine in syphilis actinomycosis and plastomycosis, and arsenic in malignant lymphoma (Hodgkin's disease).

"In working out this idea we have made some experiments to determine the effect of the x-rays on solutions of iodide of potash to determine whether it would produce any chemical change and set the iodine free.

"The first experiment was simple, and interesting in its results. We took a solution of starch and iodide of potassium and submitted it to a 10-minute exposure of the x-ray, such as we used for therapeutic purposes. We had control solution under the same conditions minus the x-ray. It was found that the x-ray liberated about twice as much iodine as was liberated from the control solutions.

"After all, however, the clinical test of such a therapeutic scheme is the important test, and we have employed this method of treatment which, I think, should be called radiochemic therapy, in a number of cases. In a case of inoperable mouth carcinoma I ligated both external carotids, and placed the patient on iodide of potassium internally, and the x-ray. The tumor was diminished greatly in size, and almost disappeared. The patient died four months later of pyæmia, and the post-mortem showed a mere remnant of the original growth, and no regional or general involvement. Two of the most striking cases of benefit from this method of treatment have, however, not been in carcinoma, but in other conditions—one a case of actinomycosis of the neck, which cleared up surprisingly rapidly under the x-ray and iodide of potassium, and the other a tumor of the colon, already referred to, almost certainly tuberculous, which has almost disappeared under the same treatment. In our carcinoma and sarcoma cases we have combined with our x-ray either iodide of potassium or arsenic, and, although I have been encouraged by the results, the cases are too few and the difficulties in the way of deter-

mining the value of this combined treatment are so great that it is impossible at present to draw conclusions. I have, however, no hesitation in presenting this suggestion of composite therapy, with the hope that others may be sufficiently interested to investigate its possibilities.

" It does seem plausible, however, that, given an agent which will destroy carcinoma cells and not the cells of the surrounding tissues under certain favorable conditions for its action, *i.e.*, superficial situation and low resisting power of cancer cells, it is quite possible we may find some way of enhancing its action so as to reach cancer cells at all depths and of all degrees of resisting power and secure in this way a carcinoma cure.

" In conclusion, the x-ray at present is indicated as a therapeutic agent :—

1. In the superficial epitheliomas above described.
2. As a post-operative treatment in most of our carcinoma cases.
3 In our inoperable cases, as a justifiable piece of experimental work in the hope that this line of investigation may possibly lead to valuable results."

OPHTHALMOLOGY AND OTOLOGY.

Under the charge of G. Sterling Ryerson, M.D.,C.M,
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CHARACTERISTICS OF OCULAR HEADACHES.

Casey Wood, in *The Medical Review of Reviews*, November 1904, has come to the following conclusions as to the results of eye strain induced by civilization :—

1. Forty per cent. of all chronic headaches and eighty per cent. of all frontal headaches are partially, or wholly, of ocular origin.
2. Their site, in order of frequency, is (a) supraorbital, (b) deep orbital, (c) fronto-ocipital, (d) temporal, or (e) a combination of these.
3. Near work is the chief exciting cause : reading, writing, drawing, painting, fancy work, typesetting, typewriting, sewing and music.
4. Patients suffering from headache often observe that other eye symptoms result from the use of their eyes for near work, especially with artificial illumination.
5. Shopping, theatre, and church-going, as well as riding in street cars and railway trains often induce it.
6. The letters and lines in reading and notes in music blur, run together, and get mixed up.

7. Patients with ocular headaches are generally astigmatic, or far sighted, or have some other refractive error, or have some weakness of the ocular muscles.

8. Patients with ocular headaches often complain of lachrymation, photophobia, foreign sensations, specks floating before the eyes, itching and burning of the lids, redness of the eyes, etc.

9. The signs of eye strain above mentioned and the headache are of ocular origin, *although the vision is normal and there is no manifest astigmatism.* The patient, in such case, overcomes his hyperopia or astigmatism, or both, by continuous muscular effort.

10. About ten per cent. of all ocular headaches are incurable, in our present knowledge, and some are hereditary.

ACUTE OTITIS MEDIA.

Dr. Frank D. Boyd, in the *Journal of the Amer. Assn.* in discussing acute otitis media, lays stress upon the necessity for early diagnosis: 1 Because of the pain which usually accompanies the attack; 2, Because of the deafness which very frequently follows; 3, Because of the danger to life by extension of the inflammation to the brain. The symptom of earache is so common in some families that Boyd is inclined to think it hereditary. A child suffering from earache is in danger of becoming deaf and we should not spare any trouble in this case to relieve the trouble and warn the family of the danger. The subacute catarrh called "earache" leads to chronic changes and impairment of hearing. McLeod Yearsley, quoted by Boyd, has this to say regarding the early recognition of ear disease in children, "The frequency of deafness in children, due to the failure on the part of the attending physician to recognise the existing ear affection in infancy is to be deplored. Often it is not until long afterwards that the real trouble is appreciated and it is then too late to effect a cure by treatment. Neuralgic pain in children is extremely rare. Loss of weight and elevation of temperature should always demand an examination of the ears. To the general practitioner, the value of the exclusion of ear diseases cannot be over-estimated." "Conclusions: (1) We should consider earache as a warning note of danger to the patient, both as regards function of hearing and of life; (2) In making a diagnosis we should avoid opiates as much as possible, for they always mask the symptoms. Paracentesis of the drum membrane should always be performed as soon as pus or serum are seen to be held behind it.

THE EFFICACY OF THE TREATMENT OF ACUTE PURULENT OTITIS BY ASEPTIC DRAINAGE.

H., Gradle, in the *Journal of Amer. Med. Assn.* draws attention to the superiority of the treatment of acute purulent otitis by aseptic drainage. Its principles are paracentesis as soon as the diagnosis is made and continuous absorption of the discharge by an aseptic gauze drain in the meatus and a large gauze pad over the auricle. After sterilization of the meatus and auricle by means of carbolic solution, the sterility of the gauze is still further assured but the liberal use of powdered boric acid in the dressing. The external gauze pad is changed as soon as moisture shows, while the tampon in the meatus may be left from 24 to 48 hours.

A valuable table has been presented to the German Otological Society by Koerner. Among 78 cases, the time required for healing was 7 days after paracentesis done on the first day, 9 days after the operation done on the second day, and up to 26 days after paracentesis done on the seventh day and later. Gradle believes that the treatment was shortened at least one-third by the use of the dry treatment. The length of time of discharge of some 40 cases in which the method was successfully carried out, was from 5 to 12 days. The change from a serous to muco-purulent discharge depends upon imperfect removal of the discharge. If the drainage is not perfect, the unfavourable change in the character of the discharge speedily shows itself. Secondary infection through the meatus with other bacteria may also occur later on and prolong the disease. The treatment by aseptic drainage requires care and skillful supervision in order to be successful.

THE GREAT VALUE OF DRAINAGE AND ICE IN THE EARLY STAGES OF MASTOIDITIS.

Sargent F. Snow read a paper under the above caption, before Section of Otology, A. M. A., which is published in the *Am. Journ. Med. Assn.* Snow believes in conservative ear surgery but: 1. Conservatism must be confined to cases not complicated by extreme or intercranial symptoms. 2. Free drainage must be secured promptly by a skilled otologist. 3. The patient must be kept within easy reach, and treatment continues for a few days until active symptoms have subsided.

From a twelve years experience of mastoid cases, Snow thinks in any line of treatment, short of operating externally, free drainage should be secured. This should be accomplished by what may be termed a

tympanico—Wilde's, or tympano-canal operation. The drum is cut upward through its posterior half up to or through the attic folds and outward along the internal mastoid, or posterior superior wall of the external auditory canal. Such an incision is done with a spear shaped knife, strong enough to lay open the tissues to the bone, thereby lessening periosteal tension to the immediate region of the inflammation, as well as giving free drainage to the attic and tympanum. An anæsthetic is necessary. While in some cases a simple puncture of the drum may be all that is necessary it is much better to be on the safe side and make the incision both deep and free. Why should we hesitate. No damage to the hearing comes for repair sets in quickly. Antiphlogistic measures are supplementary to drainage, but serve as a great aid in controlling pus formation and inflammatory action. In those cases, characterised by much pain and pushing forward of the auricle from the cellular inflammation in the soft tissues about the canal, hot injections and fomentations afford much relief; in fact, irrigating the ear with a quart of water at 115° every 20 minutes, is an excellent mode of treatment. The temperature should be recorded every three hours to make plain the variations, and in no event does it appear good policy to mask the symptoms with opium. If ice is used, to be effective it should be continuous and prolonged. The Sprague ice bag, kept properly filled and put on so that it is maintained in immediate contact with the skin over the mastoid, is without question an excellent antiphlogistic.

His conclusions are: 1. A conscientious observation of my cases has impressed me with the great advantage we at once obtain over the disease, if we secure such free drainage from the middle ear and attic that a tympano-canal incision will give. 2. While many cases will get well simply because we secure proper drainage, the constant application of ice does much to reduce morbid activity and hasten recovery.

In the discussion which followed the reading of this paper, Dr. Ed. J. Brown, of Minneapolis, recommended the carbolic-glycerine treatment of Hartmann, (10 per cent.) He had discarded both hot and cold applications. Dr. C. M. Cobb, Boston, said it does very well to be conservative, but I am absolutely certain that I have no means of knowing what is going on under the bandage. The patient either lives or dies under conservative treatment without any reference to the treatment after the first few days. Dr. Gradle, in replying, said many doubtful cases recover without operation, but the risk they run is much greater than if they had been operated upon earlier.

LARYNGOLOGY AND RHINOLOGY.

Under the charge of PERRY G. GOLDSMITH, M.D., Belleville.
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THE IMMEDIATE RELIEF OF HYSTERICAL MANIFESTATIONS OF THE LARYNX.

In the issue of the *Jour. A. M. A.* for 16th January, Leob gives details of a simple, painless, and successful method of managing this type of hysteria. In all manipulative measures, suggestion is a strong factor, and it is essential that the physician should have the patient's confidence. The method Leob uses requires no instrument except the index finger and a ready tongue on the part of the operator. At the first sitting, having recognized the case as one of hysteria, he states to anyone who happens to accompany the patient, that the case is quite clear and easily relieved; but, turning to the patient, says, 'You must agree to let me do what is necessary. I cannot consent to undertake the treatment, unless you are willing to submit yourself to treatment." The patients invariably say that they are willing to stand anything, provided there is any likelihood ot cure. Of course, he gives an absolute promise of relief, and sends the patient home to think and worry about it; or, if it is desirable, proceeds to work at once. In any event, he generally delivers a short, and more or less sentimental talk, to aphonics on the word "home," which he states is the first word they will utter, the most beautiful and easiest to produce in the English language. Having secured the requisite confidence and interest, he places the patient on a chair, inserts the index finger of the right hand into the pharynx, and presses the epiglottis over the glottis until the patient becomes somewhat uncomfortable, when he withdraws his finger, saying in a loud, commanding voice, "Now, say home! home! home!" The patient responds, and the command is continued as often as necessary, until the patient repeats not only "home," but any word suggested, leaving the office talking as well as any one. At the next sitting, he looks into the larynx, states that everything is in perfect shape, and the treatment is concluded.

OUTBREAK OF DIPHTHERIA AND SORE THROAT DUE TO MILK.

The epidemic occurred in a town of 10,000, in which the disease is endemic, usually eight or ten cases yearly. During a period of twelve days, forty-nine cases of diphtheria appeared, distributed among twenty-

six houses; and sixty-five cases of sore throat in fifty-one houses. After excluding the usual causes of infection, the milk supply was considered. It was found that all cases were supplied by the same dairyman. An investigation of the sanitary conditions of his dairy showed them to be in a fair state. All residents of farms were healthy except the wife of the dairyman and a farm hand. Swabs were taken from the throats of all. Microscopic examination showed the specific bacillus present in each. The bacilli, after isolation, were inoculated into guinea pigs. That from the farm hand produced death in 72 hours. The only explanation to offer for contamination is carelessness and dirty habits during milking.—*Australian Med. Jour.*

THE LARYNGEAL COMPLICATIONS OF TYPHOID FEVER.

Dupuy, *N. Y Med. Journal*, Dec. 26, concludes that the 256 collated cases reported in the last fifty-eight years, which for evident reasons are only partially correct, afford eloquent proof that the subject of typhoid fever affections of the larynx calls for general recognition.

Evidence, bacteriological and clinical, strongly supports the view adopted by the majority of observers, that the laryngeal involvement in most instances, is a direct typhoid fever infection. A huge death rate as shown by statistics when this complication exists, teaches the salutary lesson of always examining the larynx when the danger signals of hoarseness, dyspnoea, or dysphagia, set in. The favorable results, which follow operative interference, offer such a contrast to the high mortality without operative, that there can only be unanimity of opinion as to its propriety. Tracheotomy is the most approved, because, in most cases the only possibls surgical procedure that can save life.

NASAL POLYPI : A STUDY OF ONE HUNDRED AND FORTY-SEVEN CASES.

J. Payson Clark (*New England Medical Monthly*, Nov. 11, 1903,) declares that his greatest hindrance in the study of these cases was the difficulty of sufficiently impressing upon patients the importance of following up treatment and reporting as often as desired for observation. The usual site for these growths is in the region of the middle turbinated bone, from some part of the outer wall of the nose concealed by the middle turbinate, but more often from the turbinate itself. The writer finds no evidence of any constitutional diathesis or impairment of the general health standing in any causative relation to this affection. More than half the cases were between thirty and fifty years of age. A neglected injury to the nose might conceivably result in polyps. Suppuration of one of the accessory sinuses is another predisposing cause of the growth of nasal polypi. Sneezing was marked in about a third of the cases. The discharge varies from watery to mucous. Only a small proportion of cases are caused by sinus disease (usually ethmoiditis). A local vasomotor disturbance, which may be of constitutional origin, stands in a causative relation to polpyi in a certain proportion of cases. The removal of the whole middle turbinate will be found necessary in many cases when the growths are diffuse.—*Medical Age, 10th Feb.*

PROVINCE OF QUEBEC NEWS.

Conducted by MALCOLM MACKAY, B.A., M.D., Montreal.

Dr. Harvey Cushing read a paper on the removal of the Gasserian ganglion for tic douloureux before the Montreal Medico-Chirurgical Society, on February 5th.

Dr. Cushing began by stating that neuralgia of the fifth nerve varied in character and distribution, from a mild toothache to the terrific agony of a tic douloureux involving the three branches. He wished to understood that he at once excluded from operative interference all cases of simple neuralgia of local nature which were usually quite amenable to medical treatment. The operation was a serious one, and only to be undertaken when all ordinary measures had failed.

Horsley and Macewan were the first to attempt removal of the Gasserian ganglion, with the unfortunate result of death of both patients within ten days. Rose, of King's, next boldly attempted to attack it through the superior maxilla, an operation extraordinary for its difficulty and danger, but which was none the less successful in a certain number of cases. Many modifications have been proposed since that time, modifications in the method of approach, and in the method of dealing with the nerve and ganglion when exposed.

The three principal ways were: the low or maxillary, Rose's route; the high or temporal, Horsley and Krause's route; and the direct or sphenoidal zygomatic route. Rose's method, though improved, had not been generally accepted; and Krause's method had superceded it, but there had been a tendency throughout to make the low operation higher and the high, lower, so that the direct method had come into being by a natural process of evolution.

In the low method it was found that, owing to the depth of the wound, the confined incision and the bleeding, it was hard to remove even part of the ganglion, and impossible to extirpate it completely, and even by the high route it could scarcely be managed. In consequence of this, the operation had been simplified by merely cutting the root behind the ganglion. Fraser and Spiller investigated this method, and many observations tended to show that there was regeneration with return of pain in a number of instances; this point, however, had not been definitely settled.

In New York an attempt had been made to divide the nerves after they emerged from the ganglion, and interpose rubber tissue between the divided portions. In the first place, the rubber tissue would not prevent regeneration if regeneration were possible, and, again, such a division was in no way superior to an extra cranial severance, and it was an invariable rule that it was better to leave things alone than to do a primary operation which would cause any deformity.

In the spring of 1900, at Philadelphia, the direct method was first reported. The operation was then described as being much lower than the Krause method, extending into the temporal fossa through the zygomatic arch and below the meningeal artery, which was one of the troublesome points of the high operation. If figures could be at all relied upon, the direct operation was much less severe than either of the other two. Tiffany calculated that there was a mortality of 22 per cent. by Rose's method. The high operation had been accompanied by 10 per cent. of deaths. By the direct method the lecturer had operated upon 25 cases with one death, and he knew of 50 more cases with a general mortality of 5 per cent.

In reference to the steps to be taken in the actual operation, Dr. Cushing insisted upon practice upon the fresh cadaver. Dissecting-room specimens were of little or no value on account of the difference in sensation and resistance of the parts.

The incision was made in a horse-shoe shape with the convexity upwards over the temporal fossa and the base on the zygoma. The temporal fascia was divided in the same curve as the skin, and the zygoma shelled out and removed. The temporal muscle was then removed, and an opening about 3 c.m. in diameter made in the skull with rougher forceps. The meningeal artery could then be seen running across the opening. On pressing back the dura with a retractor the ganglion came into view, and nothing further was required than "patience and a blunt dissection" to remove it *in toto*. The zygoma was not replaced and no osteo plastic flap attempted. The reason for completely removing the zygoma was that the asymmetry of the face from atrophy of the pterygoid and temporal muscles was much more marked when the arch was present to accentuate the peculiar contour of the face. The wound healed rapidly, and except in a few instances drainage was not required.

To illustrate, Dr. Cushing cited a typical case which was one of the first to be operated on by the direct method. In 1899 a man who had been suffering from tic douloureux for ten years applied for relief by operation. He had been treated in every imaginable way orthodox and

heterodox, and on one occasion he had been given ½ grs. strychnine every three hours, in consequence of which he had strychnine poisoning. A peripheral operation had been done in 1897 with only temporary relief. At the time he was seen he was suffering untold misery, the slightest movement, an attempt at taking food, a breath of air, would bring on a paroxysm, and even when perfectlly quiet it would return every 90 seconds and last for 40 seconds. On August 4th, 1899, he was anæsthetised with chloroform, and an easy, practically bloodless operation followed. The sutures were removed on the third day and the patient made a good recovery. It so happened that this first operation was practically bloodless, but this was by no means the rule, and upon one occasion the operation had to be postponed on account of hæmorrhage.

The average age of the patients was sixty years, seven were over seventy, and age could not be considered as a contra indication. Strangely enough, fifteen out of twenty cases were men, and the right side was affected in four out of five cases.

The post operative complications were few, convalescence was rapid, and the wound healed quickly. Drainage was used in but six cases, and these patients complained of hemicrania; the lecturer thought that this headache was of dural origin. He had a few cases of herpes following operation, but in these the anæsthetic area of the affected side was not involved. As a result of cutting the motor branch the jaw movements were of necessity a little awkward, but the patients were able to masticate remarkably well. The area of anæsthesia was carefully mapped out in each case, and found to correspond very well with the accepted distribution. The anterior part of the internal auditory meatus was quite insensitive, as was the anterior wall of the Eustachian tube as far as could be explored. The eye symptoms were not dwelt upon owing to lack of time, but it was found that the nutrition was not altered and no permanent disability resulted from the operation. Taste was not affected.

In every case the ganglion was carefully examined by neurological experts, but no pathological lesions could be detected.

Not the least interesting part of the programme was the splendid collection of photographs and drawings used to illustrate the lecture.

Dr. Cushing spent the greater part of his stay, in Montreal, in visiting the colleges and hospitals of the city. He also operated upon an obscure case of trifacial neuralgia, caused by a new growth beside the lingula of the sphenoid.

Dr. Lafleur reported at the Medico-Chirurgical Society a case of myxoedema, showing photographs taken before and after treatment, and exhibiting the patient.

She was a woman, aet. 50, who had been sent to the Montreal General Hospital for Bright's disease in September, 1903. Six years before, her feet, face and eyelids became swollen, her skin became dry, rough and sallow, her hair fell out, her memory became poor, and muscular weakness became marked. This condition continued until treatment with thyroid extract grs. i. three times a day was instituted. Improvement was at once noticed, and by gradually increasing the dose to grs. iii. the patient regained perfect health.

Dr. Grimmer gave an exhibition of lantern slides and living cases of the utility of paraffin injections in correcting deformities of the nose.

Dr. Bell read the report of an exploratory operation for the purpose of locating the cause of indefinite abdominal pain, which resulted in the removal of two needles, a hat pin, and a piece of glass from the stomach, intestines and surrounding tissues. The patient denied all knowledge of the origin of the articles, and was quite certain that he had never swallowed them.

More than three thousand patients passed through the wards of the Montreal General Hospital in 1903. The outdoor patients numbered almost 36,000.

Mr. James Crathern, president, who occupied the chair read the following report:—

The excess of expenditure in 1903, over ordinary income is $13,453, against an excess expenditure last year of $10,774. The increase this year covers the extra cost of fuel, including last winter's supply of $2,000, increase in salaries, $2,000, required to secure more efficient service, $2,300 paid out in December for insurance for the next three years; ambulance, $300; water, $200; making a total of $6,800. Ordinary income in 1903 was $91,763 against $87,439 1902; but we regret to state that receipts this year to date, are $2,500 short of the same period last year.

Unconditional legacies were received during the year amounting to $18,745.

On December 31, 1902, the endowment fund amounted to $43,500, to which has since been added during the year $7,000.

The total number of patients which passed through the wards in 1903 were 3,066, against 2,878 in 1902, or an increase of 188.

The outdoor patients numbered in 1903, 35,984, against 31,993 in 1902, an increase of 3,991. These figures indicate the necessity for increased subscriptions.

In connection with the change made at the last quarterly meeting, Dr. Shirres has been elected neurologist.

MEDICAL SOCIETIES AND GATHERINGS.

TORONTO MEDICAL SOCIETY.

The regular meeting, January 28th, 1904, was held at St. Michael's Hospital, the President, Dr. Silverthorn, in the chair. The minutes of last meeting were taken as read and adopted. The committee reported progress *re* legislation affecting the taxation on doctors' income.

Dr. Hunter was called to the chair and Dr. Silverthorn showed a case of tatooing. In addition to the tatooing on the arms, forearms and the calves of the legs, there was a large representation on the chest of the British Coat of Arms. He had been a soldier and had come to the hospital with a neglected wound of the throat, two days old, it was sutured but the invertion of the edges had prevented union and the stitches had sloughed out.

Dr. Dwyer had a case of spastic paraplegia which was discussed at length by Drs. Ferguson and Webster.

Dr. McKenna exhibited a case of pericarditis with effusion. Some of the fluid had been removed by hypodermic needle and was clear, then twenty-four ounces were aspirated, which were found to be tinged with blood. The fluid had recurred and the pericardium was greatly distended again. There was very little expectoration. Dr. Bruce described the aspiration. Dr. Uren described a similar case. Dr. Ferguson enquired as to the etiology of the effusion. He recommended incision and free drainage. Dr. A. Fletcher suggested that the removal of some of the fluid and the injection of a solution of mythelene blue might be tried as had been done successfully in pleurisy. Dr. Webster asked for the source of the blood in the second tapping. Dr. Wilson enquired about the condition of the lungs. Dr. Dwyer said that he had examined the lungs and that there was a condition of bronchitis on both sides. In reply it was stated that no culture had been made. The bacillus tuberculosis had not been found in the sputum.

Dr. Wainwright showed a case of specific ulceration. Dr. Hay asked if any mercury had been given. Dr. Ferguson asked how long the ulceration existed. In reply, it was stated: Iodide of potash is of use in the third stage, but mercury must be given for the cure of the syphilitic disease. The ulceration had lasted for a considerable time but could not say how long.

The regular meeting was held February 11th, 1904, Dr. Silverthorn in the chair. The minutes of the previous meeting were taken as read. Dr. P. Scott was elected to membership. The committee *re* the assessment bill had been able to find out the proposed change and so reported. Considerable discussion followed and Dr. Rudolf suggested an alternate scheme.

Dr. Rudolf read a paper on *Visceral Manifestations of Erythema.* Dr. Ferguson said that the theories of toxic, nuerotic, and vasomotor causes had been ably advocated by different writers. There seemed to be some peculiar sensitiveness or instability of the central nervous system. Dr. Webster reported a case, seen some years ago, of a bloody discharge with mucus from the bowel with marked erythema, and sometimes the blood and mucus without the erythema. Dr. Patton had seen a case following the birth of the first baby in a young woman.

Dr. J. McMaster gave a very interesting exhibit of over one hundred x-ray photographs.

THE NATIONAL SANITORIUM ASSOCIATION.

The Trustees of the National Sanitorium Association have issued their Sixth Annual Report. They report that the year just ended was one of progress and encouraging results. Thanks are extended to those who have given assistance to the Association. The attendance of patients was greater than for any previous year. Over one thousand have been cared for in the two Muskoka Institutions of the Association. Attention is called to the large amount of literature that has been distributed on the subject of Tuberculosis and the value that this must be to the public.

The Secretary stated in his annual report that the death rate in Ontario from tuberculosis during the past three years had been steadily decreasing. There had been a fall from 3,484 to 2,694 or a reduction of 790. It was mentioned that there was a debt of $25,000 on the Muskoka Cottage Sanitorium Association. It is hoped that this may be wiped out soon. In the Free Hospital for Consumptives at Muskoka, 225 patients had been received during the past eighteen months. The number of absolutely free patients were 37 ; maintained by Toronto, 49 ; by Hamilton, 4 ; partially paid for 90. The daily average amount received from individuals or municipalities, 34 cents ; and the average stay of patients, 133 days. Cost of maintenance was $23,136.02. The amount received from patients, Government grant and municipalities was $9,710.36, showing a shortage of $13,425.66. To this must be added a deficit from last year of $208.85, making a total shortage of

$13,634.51 In response to appeals, $10,375.46 had been received, still leaving a deficit of $3,258.55 for the year. An effort is to be made to endow 25 beds. It requires $300 a year to maintain a bed. This would call for an income of $7,500. Three life insurance companies have contributed each $500.

The Physician-in-charge of the Muskoka Cottage Sanitorium submitted a very full report. He selects 115 patients for special study as to the benefits derived from treatment. Of these 24 were discharged as apparently cured; 41 with the disease arrested; 30 with marked improvement; 17 as unimproved; 3 as failed. Of all patients admitted, bacilli were found in 87% and absent in 13%, at the time of admission. During four years 531 patients were admitted. Of these, the right lung was affected in 158, the left lung in 67, and both lungs in 306. In the year 1897-98, 12 were discharged apparently cured. One of these has disappeared. The remaining 11 are in good health. 23 were discharged with the disease apparently arrested. Of these 3 have disappeared 5 have died, and 15 remain as well or better than when discharged. In 1898-99, 21 were discharged as apparently cured. One has died, and 20 are in good health 32 were discharged as with the disease arrested. 13 of these have died and 19 remain as well as, or better than, when discharged. On the whole Dr. J. H. Elliott's report is decidely encouraging. Dr. C. D. Parifitts's report of the work done in the Free Hospital for Consumptives is hopeful in its tone. Of 97 patients under treatment for periods over one month, 5 were discharged apparently cured, 20 with disease arrested, 27 improved, 41 not improved, and 4 died. The average duration of stay was 170 days.

The officers of the Association are Lord Strathcona and Mount Royal, President; Sir W. R. Meredith, Toronto, Vice-President; W. J. Gage, Toronto, Chairman. Executive Committee: J. S. Robertson, Toronto, Secretary; Dr. J. H. Elliott, Physician-in-charge of the Muskoka Cottage Sanitorium; and Dr. C. D. Parfitt, Physician-in-charge of the Free Hospital for Consumptives, Gravenhurst.

ANNUAL MEETING OF THE ONTARIO BOARD OF HEALTH.

The Provincial Board of Health held its annual meeting 4th February, in the Board of Health Office, at the Parliament Buildings, Dr. Kitchen, of St. George, in the chair.

Dr. C. A. Hodgetts presented his report, showing that during the year there was a marked decrease in smallpox and scarlatina. Diphtheria prevailed extensively, but was by no means of such deadly effect as

formerly, because of the intelligent use of anti-toxin. The greatest prevalence was during the fourth quarter, the death rate being 13.47 per cent. of cases, which is slightly in excess of the yearly rate. Enteric statistics are imperfectly returned, but it was quite prevalent during the year. The deaths from tuberculosis during the year amounted to 2,072 Dr. Hodgetts makes a strong plea for municipalities to establish sanatoria for consumptives.

The death rate in the province for 1903 was given as 12.6 per 1,000. March was the most fatal month, when the rate rose to 14.7, and June was apparently the safest, when the rate fell to 11.3.

Mr. E. J. B. Pense, M. P. P., Kingston, and Dr. James, M. P. P., East Nipissing, presented a number of suggestions to the board from Queen's University medical faculty. For a grant of $500 per annum they will make free examinations of sputum for tubercle and pneumonia, of blood for typhoid, and other classes of examinations needed by the board, and sent by practitioners, health boards and municipalities anywhere in the Province. The board's attention was also drawn to the resolution passed by the Association of Executive Health Officers in 1900 proposing the establishment of branch board of health laboratories at places like Kingston and London, where trained men are available. The Queen's faculty offers to place its laboratories and the services of its experts at the disposal of the Provincial Board of Health in return for a nominal grant sufficient to pay the actual cost of the work. They endorsed Dr. Bryce's scheme for appointing county medical health officers as an ideal one, but at present impractical, and they urged the establishment of branch laboratories as the first practical step towards a comprehensive scheme.

The splendid work of the retiring secretary, Dr. Bryce, was marked by the presentation to him of a grandfather's clock.

The members of the Provincial Board of Health, the medical faculty of the University of Toronto, Hon. J. R. Stratton, Dr. P. H. Bryce, the retiring secretary; Mr. T. H. Preston, M. P. P., and Mr. Daniel Burt, M.P.P., were entertained at dinner at the King Edward in the evening by the chairman of the board, Dr. E.E. Kitchen, of St. George. Mr. Stratton, in his address, expressed his entire sympathy with the work of the board. He spoke of the entirely non-partisan character of its work, said the new secretary, Dr. Hodgetts, had been appointed because of his peculiar qualification for the duties, and said he had appointed one Conservative to the board, and if a vacancy occurred would appoint another, making two Conservatives to three Reformers. Mr. Stratton also expressed sympathy with a proposal to have medical health officers appointed to cover a group of counties. Dr. Adam Wright, for the

University of Toronto bore strong testimony to the fair treatment which the university had always received from the Government. Dr. Reeve, Dean of the university medical faculty, and several other speakers bore tribute to the excellent work done by Dr. Bryce. Mr. T. H. Preston replied eloquently to the toast of Canada.

THE CONFERENCE ON SCHOOL HYGIENE.

On February, 2nd and 3rd, a conference of educationists and doctors was held in the Normal School, Toronto. Hon. Mr. Harcourt, Minister of Education, had called together a number of persons engaged in educational work, and several medical men who are paying attention to sanitary science and hygiene.

Mr. Harcourt, in opening the meeting, spoke of the great value of health—*Mens sana in corpore sano.* While it was possible for a person to accomplish much in spite of ill health, it was nevertheless true that good health was of much advantage to the individual. It was important that close attention should be paid to the health of the children attending school; and that every effort should be made to secure the best hygienic conditions in the schools. It was for this reason that so much attention had been given to gymnasium practice. He referred to the saying of Agassiz that the ideal human being was the one who had "the mind of sage in the body of an animal." He said that deliberations of the conference would no doubt influence the people of Ontario with half a-million school children.

Dr. Charles Sheard read a paper on "how to prevent outbreaks of infectious diseases among school children and suppress them when present." His excellent address appears in this issue of THE CANADA LANCET.

Dr. P. H. Bryce took up the subject of the "The great relative prevalence of preventable diseases in children of school age, as revealed by the Ontario Statistics." During his remarks he drew attention to the fact that some of the children's diseases were too prevalent; but called attention to the great reduction that had been effected of recent years. The death rate from these infectious diseases had been reduced one-third. It must be apparent that practically there is no limit to the economic and life-saving results which public health work, moving along the lines of experimental science, is capable of. What it is apparent is necessary is, (1) a conviction that disease is disseminated, (2) that we be convinced by the results of the methods that an enormous saving of cases of disease and deaths is possible, and (3) that we possess scientific methods so certain when persistently and systematically carried out, that

they will suppress outbreaks of epidemic diseases almost with the same certainty as the demonstrated amount of work which a properly constructed machine, will perform with the combustion of a definite weighed quantity of fuel,"

Dr. C. A. Hodgetts, Secretary to the Provincial Board of Health, discussed the question of "Compulsory Drill for School Boys." An abstract of this paper appears on another page.

Number of other topics were discussed, such as the air space for school rooms, the methods of teaching gymnastics and drill, the providing of suitable amusements for children at schools and in their playgrounds, and whether too many subjects are now taught.

TORONTO DOCTORS AND THE ASSESSMENT BILL.

The medical practitioners of Toronto held several meetings to discuss the provisions of the new assessment bill, in so far as they affected medical men. At the first meeting a committee was appointed to report to an adjourned meeting. The committee prepared a number of resolutions and recommendations which were approved of at the second meeting. The committee was continued in office to report again at a further meeting. The clauses of the bill that affected physicians are as follows:—

9. (1) Irrespective of any assessment of land under this Act in cities, towns and villages, every person occupying or using land in the municipality for the purpose of any business mentioned or described in this section shall be assessed for a sum to be called "business assessment" to be computed by references to the assessed value of the land so occupied or used by him, as follows:—

(e) Every person practising or carrying on business as a barrister, solicitor, notary public, conveyancer, *physician, surgeon, oculist, aurist, medical electrician*, dentist, veterinarian. civil or mining or consulting or mechanical or electrical engineer, surveyor or architect, for a sum equal to fifty per cent. of the said assessed value.

(2) Where a person comes under two or more clauses, to be assessed under the one which imposes the highest tax.

(4) Where any person mentioned in sub-section 1 occupies or uses land partly for the purpose of his business and partly for the purpose of a residence, he shall be assessed in respect of the part occupied for his business only, *but this provision shall not apply to persons assessed under clause (e) of sub-section 1.*

The general concensus of opinion was that the bill bore too heavily upon the medical profession. It was hoped that some concession might be secured. The opinion was held by many that as doctors do so much charity work, they should be exempted from the business tax. The house a doctor lives in is no guide to his income.

It was thought that if the words in italics in sub-section 4 were omitted from the bill the medical profession would be placed up n a fair basis with regard to other classes. If this change were made a doctor would then pay a business tax on the assessed value of that portion of his residence which he used for his offices. This would be very much more favorable than to be called upon to pay a business tax on half the assessed value of his entire residence.

It was thought physicians and surgeons throughout the Province should interest themselves in securing a mitigation of the business tax proposed in the bill. At a conference between Hon. J. M. Gibson and the committee, Mr. Gibson agreed that the business tax be paid on 25 per cent. of the value of the residence. Thus, if a doctor's house be assessed for $4,000 he would pay a realty tax on this amount and a business tax on 25 per cent. of the value of the house, or on $1,000.

The feeling was very general among those present at these meetings that there should be an association among doctors for business purposes.

At a further meeting, held on 24th February, the arrangements effected by the committee regarding the assessment bill, that the business tax be paid on 25 per cent. of the value of the residence, was approved of, and the committee thanked for its efficient work.

Dr. N. A. Powell then addressed the meeting on the subject of antitoxine. He contended that the price of antitoxine was too high, and that efforts ought to be put forth to secure it at more reasonable prices. On motion of Dr. Powell, a resolution was unanimously adopted that the Federal Government be asked to establish a laboratory for the preparation of antitoxine for Canada; and that, until this is accomplished, the Government take steps to secure, at lowest cost, a supply from the Lister Institute of Preventive Medicine, in London. A committee was appointed to take charge of this matter.

The formation of an association for business purposes was then discussed; and, on motion of Dr. J. Ferguson, it was agreed that such an association would be in the interests of the profession, and the chairman was instructed to appoint a committee to formulate a scheme for the same, and to report to a future meeting.

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EDITORIAL.

PHYSICAL DEGENERATION.

Major-General Sir Frederick Maurice, some time ago in the *Contemporary Review*, called the attention of the British public to the fact that an alarming proportion of the young men in Great Britain were physically unfit for military service. It appears, from his observations, that sixty per cent. of men wishing to be soldiers prove unfit. This large percentage consists of the following groups: Those unfit to be taken before the examining medical officer, those rejected by the medical examiner, and those who break down within two years of enlistment.

He goes on to trace the physical breakdown to heart weakness, pulmonary troubles, and rheumatism. Much of the trouble arises from early decay of the teeth, causing indigestion, due to faulty feeding when young through ignorance of the mothers, bad sanitary conditions, insufficiency of milk, and proper nourishment. His conclusions are that there are five men unfit for military service for two who are fit. This is a serious affair for Britain. A long and arduous process of education will be required along the lines of education, housing, air, food, cleanliness, and temperance, before the average standard of the general population is attained. Sir Frederick Maurice states, however, that the effort must be made.

Surgeon-General Don, who had examined over 100,000 applicants, stated that he was convinced judicious physical and military drill, if combined with sufficient food and healthy environment, will signally contribute to the moral as well as to the better physical development of boyhood and early manhood. He then directs attention to the gain in weight and chest measurements that follow systematic training and drill. Further, he lays particular stress on the fact that physical training did great harm to underfed children. The muscular system must receive sufficient nourishment. Such a weighty opinion as the above cannot be ignored.

The *British Medical Journal* appointed a commissioner to enquire into the causes of the physical degeneration to which attention had been drawn by the remarks of Sir Frederick Maurice. The Commissioner found that the principal causes are: Town life and overcrowding; im-

proper and insufficient food for the mothers and the children; faulty conditions in the education, often including badly ventilated schools, long hours without recreation, unnecessary exposure to infections; lack of personal hygiene and cleanliness; the inattention to proper exercises, games and amusements during school life, and the instruction of teachers in these matters; and, lastly, the evil effects of drinking, especially among women.

On this latter point, it is a matter for congratulation that a very strong committee, consisting of such well-known physicians and surgeons as Elizabeth Garrett Anderson, Sir Thomas Barlow, Sir William Broadbent, Sir Lauder Brunton, William Carter, Professor John Chiene, Andrew Clark, T. S. Clouston, Professor Cunningham, A. Pearce Gould, T. D. Griffiths, Sir Victor Horsley, Sir Henry Littlejohn, Jordan Lloyd, Sir William Macewen, Sir John W. Moore, A. W. Mayo Robson, Robert Saundby, Sir Henry Thompson, Sir William Turner, John Tweedy, Sir Samuel Wilks, Dawson Williams, Professor Sims Woodhead, and others, have been appointed. This committee has drawn up a form of petition for signature by the members of the medical profession, asking that the teaching of temperance and hygiene be made compulsory in the schools of Great Britain and Ireland. The committee refer with pleasure to the fact that this is done in all the Provinces of the Dominion of Canada, except Quebec and Prince Edward Island, in which provinces the teaching of temperance is optional, but very general.

Happily, some of the conditions that are telling so severely against the health of the British people do not exist in this country to the same extent. Nevertheless, there is need for constant attention to the subjects of hygiene and temperance, and the conditions surrounding the school life of the children. At a recent convention of educationists in Toronto, much attention was given to the important question of drill and gymnastics for the children. This is a matter well worthy of the best thought of those who have charge over the youth of this country. We would quote the words of Professor Clifford Allbutt, to the effect that, "for a physically degenerated civilization there is nothing but extinction, whereas for the sturdy barbarian there may be a great future."

The general condition of the health of the people of this country is, upon the whole, in a very satisfactory condition, but there is room for improvement. It is one of the hopeful signs of the times to see prominent educationists, scientists, physicians and publicists, taking an active interest in the furthering of the cause of the health of the people, and especially along the broad lines of the value of a wide-spread knowledge of hygiene and temperance.

THE PHYSIOGNOMY OF DISEASE.

The late Sir William Gull used to say, that "mistakes were oftener made by not seeing than by not knowing," and the late Sir George Humphrey taught his students "eyes first, eyes second, hands third." We should ever remember that we treat patients and not diseases, and that our minds should be open for the reception of information from all sources. We ought to view the patient as a whole, and not merely the organ affected.

Sir Dyle Duckworth, in the latest volume of *International Clinics* has an interesting article on "Physiognomical Diagnosis in Disease." He states that before any questions are asked, a careful survey should be made of the patient, to ascertain what manner of a person the practitioner has to deal with. A careful guess should be made as to the age, occupation and past life of the individual. Then the condition of the various organs, vessels and limbs must be passed under review. The question should be asked "Is the disease cerebral, thoracic, abdomical or articular?" In this way, a shrewd idea may be formed as to the nature of the patient's ailment, and a favorable impression created. When the questions are put they have a far more definite aim, and go to convince the patient that in some way or other the doctor already understands the case.

Many diseases present a rather characteristic facies, such as tuberculosis, diabetes, aortic aneurism, Grave's disease, pericarditis, cancer, chronic jaundice, hepatic cirrhosis, cardiac dilatation, malarial cachexia, chronic alcoholism, Addison's disease, cretinism, pernicious anæmia, chronic tubal nephritis, collapse and morbus ceruleus. Melasma may arise from Addison's disease, arsenical poisoning, abdominal tuberculosis or chronic phthiriasis; erythema may suggest an arthritic habit or rheumatic infection. The posture of the patient often throws light upon the case. Note should he be made of the red gum of phthisis, the blue gum of lead poisoning, and the fungating gum of scurvey. A few scattered vascular stigmata on the face point to alcoholic cirrhosis of the liver. Small cutaneous nodules on the hands or over bony projections point to rheumatic infection and almost certain endocarditis. Fluted or vertically lined nails point with much certainty to gout. Transverse furrows on the nails point to past ill health, the date of which can be guessed by the position of the furrow, as the nail requires about six months to grow. These furrows indicate the arrest of bodily nutrition at the time of the illness. Visible scars may point to previous injury, operation, tuberculosis or syphilis.

Chubbed fingers and a thickened condition of nose and ears direct attention to some source of thoracic obstruction, congenital cardiac malformation, mixed blood currents, or chronic pulmonary fibrosis. No other form of disease ever causes this chubbing or thickening. Tremors of the fingers often suggest Graves' disease or chronic alcoholism, and when the hands and arms are thus affected we look for paralysis agitans or mercurial poisoning.

THE NUMBER OF DOCTORS.

In the United States there are 135,000 doctors; in Canada about 6,000; Germany, 27,000; Great Britain, 42,000; Russia, 12,500; France, about 60,000. In the United States there is one medical college to every 500,000 of the population; in Great Britain, one to every 2,350,000; in Germany, one to every 2,500,000; in Austria, one to every 5,000,000; and in Canada, one to every 500,000. It is estimated that the average income of each doctor in the United States is $1,500 a year.

THE APPOINTMENTS OF DRS. BRYCE AND HODGETTS.

A short time ago, when Hon. Clifford Sifton was in Toronto, he made arrangements with Dr. P. H. Bryce to become the Medical Inspector of Immigration and to oversee the care of the Indians. These are highly important duties, and will bring in their discharge very great responsibilities. Mr. Sifton made an excellent choice in the selection of Dr. Bryce. For twenty-two years he has acted as Secretaty to the Ontario Provincial Board of Health; and for several years also as Registrar-General of the vital statistics of the Province. In these capacities he displayed much energy and executive ability. His annual reports compare favorably with those of a similar character issued by any country or state. Immigration to this country is one of the most important questions now before the people, and the services of Dr. Bryce will be of undoubted value to this department and the country. We wish him every success.

Dr. C. A. Hodgetts has been appointed to the position of secretary of the Ontario Provincial Board of Health, which was rendered vacant by the removal of Dr. Bryce to the Department of Immigration, Ottawa. Dr. Hodgetts has acted as Inspector for the Provincial Board of Health for about thirteen years. He has been most energetic and capable in his management of a number of outbreaks of scarlet fever, diphtheria and small-pox. He has displayed good judgment in many difficult and trying positions. We feel sure that he will give a good account of

himself, and that the work of the Provincial Board of Health will not suffer any deterioration in his hands.

Dr. Hodgetts was for a time connected with No. 4 Bearer Company, under Major Fotheringham. He now holds the rank of captain. During the South African War he acted as Honorary Secretary to the Canadian Red Cross Society for which he received the reward of being made an honorary associate of the Order of Saint John of Jerusalem, England. He enters upon his new duties immediately. Dr. Bryce having already assumed his new duties.

FIRE PROTECTION IN PUBLIC INSTITUTIONS.

The public conscience is stirred now and again by some sudden catastrophe. The recent fire in Chicago has directed attention to the safety of the public in theatres and public halls. It is often only too true that such awakenings are of short duration, and the public mind is soon lulled to sleep again.

While this subject is before the public thought, it would be well to give careful attention to the safety of the inmates of our hospitals asylums, poorhouses, prisons, jails, schools, etc. Every facility should be furnished for the speedy removal of the inmates to some point of safety The attendants in all such institutions should be thoroughly drilled in the proper actions to take in the event of fire breaking out.

The great value of fire drill has been, within the past few weeks, well exemplified in two of the Toronto public schools. But while all can rejoice in the successful manner in which the pupils and teachers made their escape from the burning building, it is very desirable that steps should be taken to render such fires practically impossible. Some day, a fire may occur in a school, or public institution, in such a way as to block up the passages and thus cut off the lines of escape. Fire drill would then fail to save the lives of the inmates.

It is of the utmost importance that in every hospital throughout the country steps be taken to safeguard these institutions. The electric wiring, the furnaces, and all pipes and chimneys should be inspected and put in an absolutely safe condition. It is as in many other things, prevention is better than cure. It is only about a year ago now when some eighteen persons lost their lives in a hospital fire in Chicago. It is not our intention to say anything at present regarding the provisions for the rapid and safe removal of patients from the Toronto Hospitals. We are, however, of the opinion that, if put to a severe test by a large

fire, they would be found inadequate. It must ever be borne in mind that it would be a hard task to empty a hospital of its inmates, so many of them being bed-ridden.

The imperative demand, therefore, is prevention. All fire plant and electric wires should be made safe. The nurses and orderlies should be taught fire drill. There should be in all wards buckets of water, and at convenient places hose attached and ready for instant use. Such provisions would cost but little, and might at any time avert an appaling holocaust.

A HOME FOR THE BLIND.

The Annual Report of the Ontario Institute for the Education of the Blind, at Brantford, has just been issued. The Principal, Mr. H. F. Gardiner, makes some important recommendations. He strongly urges that something be done for the indigent blind who cannot maintain themselves. He thinks they should not be sent to the poorhouse nor committed to the jail. This class could not be properly cared for in the Institution in Brantford, which is intended for the education of blind youths.

Dr. Chamberlain endorses this suggestion, and remarks that there are fifty to seventy blind persons in Ontario who are homeless and have no means of support, nor anyone to care for them.. He thinks a house and workshop should be erected beside the present Institution. They might be put at such employment as they can do. We hope this recommendation may be carried out. There is no more worthy object on which some of the public funds could be expended than in providing a home for the destitute adult blind. We feel sure that no one in the Province would raise his voice against any such expenditure. There is no more suitable place for it than as an addition to the present institution at Brantford.

THE PREVALENCE AND COST OF CONSUMPTION.

From Virchows Archives we learn that tuberculosis is very rare during the first year of life; that from the first to the fifth year it is infrequent, but regularly fatal; that from the fifth to the fourteenth one-third of all bodies are found to contain tubercles; that from the fourteenth to the eighteenth year tubercular lesions are found in one-half; that from the eighteenth to the thirtieth year 97 per cent. show tubercular changes; and that after the thirtieth year 99 per cent. of all bodies reveals tubercles. About 10,000 die in Canada annually. The loss to the country in time, expenses and lives is about $22,000,000 a year.

PERSONAL NEWS ITEMS,

Dr. J. Muirhead Leney has left Montreal and intends locating in Winnipeg.

Dr. Ingram, late of Emsdale, is now assisting Dr. Freeborn at Magnetawan.

Dr. J. Switzer Freeborn, is a candidate for the Federal House, for Parry Sound.

Dr. F. A. Taylor, of Moncton, and Miss St. Clair Snow were married January 28th.

Dr. F. W. Campbell, Dean of Bishops Medical College, has resumed practice again.

Dr. A. E. Vipond, who has been visiting his parents in England, has returned to Montreal.

Dr. G. C. Ferguson has given up his medical practice in Strathroy and has removed to Toronto.

Dr. Smith L. Walker has returned to Truro after practising some years in Los Angeles, California.

Dr. W. M. Whilan, of Whitney Pier, was married on the 28th January to Miss Curly, of Sydney.

Dr. J. H. C. Willoughby, of Saskatoon, was on a trip to Chicago and other points east a short time ago.

Dr. H. D. Johnson has been appointed a member of the staff of the City Hospital, Charlottetown, N. S.

Dr. Gibson, a graduate of Queen's University, Kingston, is about to open up a medical practice in Calgary.

Dr. Irwin, Toronto Junction, who has been ill for some time with laryngitis and la grippe, is recovering.

Dr. A. Thompson, of Dawson City, is spending a few weeks with his relatives at his old homs, Elmsdale, N.S.

Dr. Conway Cartwright, of Ottawa, paid a visit a few weeks ago to Rev. C. E. and Mrs. Cartwright, of Kingston.

Dr. James McClurg has been appointed jail surgeon at Sault Ste. Marie in the place of Dr. Adams who resigned.

Dr. E. Flath, of Chelmsford, and Miss Irwin were united in the bonds of matrimony, in the early part of January.

Dr. M. M. Allan, who recently opened an office in Port Elgin, has already worked up a large and successful practice.

Dr. Gordon M. Byers, 192 Peel street, Montreal, who had spent the past three months in Germany, has returned home.

Dr. and Mrs. Massue-Fortier have returned from their wedding trip, and are located at 321 Sherbrooke street, Montreal.

Dr. F. R. Seager's residence at Brigden was wrecked by the explosion of the acetyline gas plant, and the family had a narrow escape.

After an extended visit with friends and relatives in Ontario, Dr. W. J. and Mrs. Cross left, a few weeks ago, for their home in Australia.

Drs. J. G. McDougall, of Amherst, and James McLeod, of Wallace, have gone to London, to carry on post graduate study for some months.

Dr. G. R. McDonagh, of Toronto, left in the early part of February, for the West Indies. He will return to his practice about 15th March.

Dr. E. B. Fisher, of Fredericton, and Dr. Hand, of Woodstock, attended the New Brunswick Provincial Board of Health meeting, in St. John recently.

Dr. A. S. Morrison, 543b Wellington street, was appointed physician to the fire department, Montreal, to replace Dr. Daoust, who has left the city.

Dr. McLean Simpson, New Glasgow, N. S., is removing to Emerald, where he will succeed Dr. Johnston, who has taken the practice of Dr. Wickham.

Dr. Chesney McClure, of Lethbridge, Alta., and Mr. W. O. McClure, of Cleveland, were in Brampton a few weeks ago attending the marriage of their sister.

Dr. Anglin, of Kingston, is now improving satisfactorily from his attack of Septicaemia. He was in the General Hospital, Kingston, for several weeks.

Dr. Louis P. Farrell, of Halifax. of the Indian Medical Service, has been ordered from India to active service in Somaliland with the Somaliland field force.

Dr. Gammack, who was in Sarnia with his brother-in-law, Dr. R. D. Scott, attending the funeral of Mrs. Scott, has returned to his home at South Bend, Ind.

Dr. Vrooman, M. P., for South Victoria, was operated on for appendicitis in The Toronto General Hospital a short time ago. He is reported as doing well.

Dr. F. B. Harkness, of North Gower had a dangerous attack of appendicitis recently. An operation beeame necessary, his condition was reported as favorable.

Dr. E O. McDonald, of New Aberdeen, Glace Bay, was united in marriage, 7th January, to Miss Colena Frances Cameron, daughter of Dr. Hugh Cameron, ex-M.P.

The late Dr. D. S. Bowlby, of Berlin, bequeated $1,000 each to the St. John's church, to the Synod of the diocese of Huron and to the Berlin and Waterloo Hospital Trust.

Dr. Steele, of Almonte, spent a couple of days in Arnprior, with his brother Dr. Howard Steele, who was suffering from an attack of appendicitis but is now recovering.

At a meeting of the ex-pupils of the Normal School, it was decided to ask permission of the Government to erect a tablet in the school in honor of the late Dr. Sangster.

Dr. Wm. Ness, of St. John, left Thursday for Uncle Sam's domain. He purposes practising in the vicinity of Lewiston, Me. Best wishes from all for the doctor's success.

The residence of C. D. Strong, of Moncton, was the scene of an interesting event 12th January, when Dr. Fred King, of Cranbrook, B.C., was married to Miss Edith Keith.

Dr. Charles Shaughnessy, who has been an invalid for some time, and who went to the Adirondack region, New York State, for treatment, has returned to his home, in St. John.

Miss Jean Robinson, daughter of Rev. J. M. Robinson, pastor of Westminster church, Dubeque, Iona, was united in marriage to Dr. Walter Livingston Coulthard, of B.C.

Dr. A. F. McLaren, of Lancaster, who is going to Medicine Hat, N.W.T., was entertained by his friends at the Algonquin House, Stanley Island, the Mayor of Cornwall presiding.

Dr. Blackader, Mountain street, Montreal, who returned home from the Montreal General Hospital much improved in health, left about the end of January, for a short visit to Bermuda.

Dr. Edward Fahey, who left this city a few weeks ago for St. Paul, has passed the Minnesota Medical Council examinations and is now eligible to practice his profession in that State.

Dr. Kitchen was in Toronto, during part of January, on Provincial Board of Health business, and while there attended the Medical Association banquet held at the King Edward Hotel.

Dr. O. Morris, of Vernon, B. C., was in Victoria. He remains over until after the meeting called in the interests of forming an association for the Prevention of the Spread of Tuberculosis.

Dr. J. M. Park has been appointed House Surgeon at the City Hospital, Hamilton, succeeding Dr. Hess, who has gone to Dundas to take Dr. Bertram's practice, while he is in the south.

The list of practices for sale by the Canadian Medical Exchange, conducted by Mr. Hamill, is so unusually inviting this month that we advise intending purchasers to carefully examine the same.

Dr. A. E. and Mrs. MacIntyre, who were passengers on the *Parisian*. were married recently in Germany. They are *en route* to Quebec. Dr. MacIntyre was formerly an editorial writer on the *St. John Telegraph*.

Dr. W. C. Billings, N. S. Marine Hospital Service, who has been in St. John on detached duty to the immigration service, has been promoted, having passed as assistant surgeon, with the relative rank of captain.

A pretty and very quiet wedding was solemnized in St. John's Church, Toronto Junction, on the afternoon of January 25th, when Mrs. F. M. Fraser, of Hylinda, Toronto Junction, was married to Dr. S. H. McCoy, of St. Catharines.

Dr. Theo. Coleman, head physician for the Canadian Copper Cliff Company has resigned, and will move with his family to the City of Hamilton, where he will go in for private practice. He is succeeded by Dr. R. J. Gibson of Sault Ste. Marie.

The death of Mrs. Sippi, wife of Dr. C. A. Sippi, Bursar of London Asylum for the Insane, occurred January 26th, at the family residence, London Junction. Mrs. Sippi had been unwell for some time, her ailment finally developing into pneumonia.

Dr. McLean, of Winnipeg, had recently a very narrow escape, while driving in his cutter, his horse was struck by a street car and knocked down. The cutter was dragged a short distance by the car. The doctor escaped unhurt though his horse was killed.

Dr. Herod, of Thorold, who located here about two years ago, and remained about two weeks, has returned to town and opened an office in the Macartney block on Front street. During the past two years the doctor has been with the Clergue Co. at the Soo.

Dr. T. J. Moher, Assistant Superintendent of the Institution for the Feeble Minded, Orillia, has been promoted to the position of Medical Superintendent of the Asylum for the Insane, Brockville, in place of the late Dr. Murphy, who died suddenly a short time ago.

Dr. J. Nisbet Gunn, Graduate in Medicine, of Toronto University, 1902, who has just returned from a year in England and on the Continent,

passed the M.R.C.S. and L.R.C.P. examinations of London recently. He intends practising with Dr. W. Gunn, of Clinton, Ontario.

Dr. Marshall, who for the past five years has been engaged practising medicine in Michigan, has been spending some days here visiting his brother, Mr. J. G. Marshall, Midland. Dr. Marshall expects to commence the practice of his profession in Ontario in a short time.

Dr. Yamel Kin, whose medical degree is said to be the first ever conferred upon a Chinese woman in the United States, talked to the members of the Boston Twentieth Century Club last month. She told them they were too nervous, too unstable, too impressible, too strenuous.

Jas. G. Cranston, M. D., was presented recently at Arnprior, with a very beautiful silver tea set, in acknowledgment of his services as chairman of the Board of Education for thirty-five years. The Doctor is now Mayor of Arnprior. Mrs. Cranston is a sister of Mrs. Yarker, of Toronto.

A very pretty wedding took place on Wednesday afternoon, February 3rd, at the residence of the bride's parents, Mr. and Mrs. Hugh McDonald, Chatham, when their only daughter, Miss Grace, was married to Dr. C. C. Bell, son of Judge Bell, of Chatham. The Dr. and Mrs. Bell will reside in Chatham.

Miss Margaret Borthwick, who is well known in Galt, through having lived there several years, is credited by the *News*, of Marcon, Georgia, with having made a plucky attempt to prevent the escape of a negro who had attempted the murder of Dr. Elder, chief surgeon of the city hospital, in that city.

The income on the real and personal estate of the late J. B. McIvor goes to his sister, Mrs. Alexander Mackie, during her life. After her death the estate is to be divided between the General Hospital and Queen's University, the hospital getting the larger share. The value of the estate is about $20,000.

Dr. P. H. Bryce, formerly secretary of the Provincial Board of Health, has assumed the duties of his new position as Medical Inspector of Immigration. Dr. Bryce will have charge of the medical staff who examine the immigrants at the ports of entry and also those who look after the Indians. He will move his family to Ottawa.

A pretty wedding was celebrated at Guelph, Thursday afternoon, Dec. 31st, when Miss Amy Martin, second daughter of the late W. E. Martin and Mrs. Martin, was united in marriage to Dr. Oswald C. Withrow, M. R. C. S. (Lond.), L. R. C. P. (Edin). Dr. and Mrs. Withrow left for a short trip to eastern points. On their return they settled in New Hamburg, where he had purchased a practice.

Monday evening, 4th of January, the home of Dr. H. R. Carter, of Port Elgin, N. B., was the scene of a pleasing event. His friends from Shemogue, Upper Cape, Baie Verte and Port Elgin met at his home in appreciation of his recovery from his recent illness. Rev. J. H. Brownell. of Shemogue, on behalf of the friends, presented the doctor with a most elegent ebony and gold cane, the best that could be procured.

The calamitous fire which swept the business section of Baltimore on Sunday and Monday, February 7th and 8th, destroyed the February number of the *Maryland Medical Journal*—the Tuberculosis Exposition number—containing the valuable papers of Knopf, Flick, Adami, Ravenel, Thayer, Hoffman, Salmon, etc. Through facilities afforded in Philadelphia, the forms were reproduced from proofs on file outside the fire zone, and the February Journal was issued a few days ago.

The quarantine regulations, which were imposed upon the Mimico Asylum on account of the development of smallpox in one of the newly appointed nurses, were suspended three weeks ago, and the danger of the spread of the contagion which at first existed is now happily past. Dr. Hodgetts, Secretary of the Provincial Board of Health, expressed himself as well pleased with the thoroughness of the quarantine as maintained by the management of the asylumn, and the consequent protection which it has afforded.

OBITUARY.

JOHN HERBERT SANGSTER, M.A., M.D.

A notable figure in the Canadian Medical and Educational world, passed away at the King Edward Hotel, on Wednesday, 27th January, 1904, in the person of Dr. John Herbert Sangster, of Port Perry. Along with Mrs. Sangster, he came to Toronto the day previous to meet their daughter and her husband, Dr. S. C. Corbett, of Winnipeg, who were returning from their wedding trip to the Bermudas. For about two years, Dr. Sangster had suffered from heart disease; but was feeling unusually well the day before his death. About 3 o'clock in the morning, Mrs. Sangster noticed that he was breathing heavily and summoned Dr. Corbett, who was in an adjoining room; but Dr. Sangster expired almost immediately. Dr. Sangster was born in London, England, in 1831, and came to Canada with his parents while he was quite young. He was educated at Upper Canada College, and was one of the first students of the Provincial Normal School when it was opened in 1847. At the time of his death, he was the only survivor of that class.

In spite of his youth—he was then only sixteen—his ability attracted the favorable notice of the then Principal, T. J. Robertson, and of the then Chief Superintendent of Education, Rev. Dr. Ryerson, through whose influence he was appointed successively assistant master of the Provincial Model School, head master of the Hamilton Central School, assistant master of the Model Grammar School, second master of the Normal School, and, finally, in 1866, Principal of the same institution, which position he filled till 1871. During the whole term of his connection with the Normal School he was professor of chemistry and botany in Rolph's Medical School, which was the medical faculty of Victoria University. He prosecuted the study of medicine meanwhile, and took his degree of M. D. On his retirement from educational work in 1871 he settled in Chicago, but after a brief residence there returned to Canada and began the active practice of medicine in Port Perry. In 1874 he was defeated by Mr Goldwin Smith in a contest for a seat in the Council of Public Instruction. He was eminently successfuly in his profession, and in November 1894, he was elected a member of the Ontario Medical Council. In that connection he will long be remembered for the strong fight he made for a number of years for a change in the composition of the council. His chief objection was to the presence upon the council of colleges not teaching medicine, and his fight was to a great extent successful when the matter came before the Legislature. Having succeeded in his effort, he became an ardent supporter and one of the most useful members of the reformed council.

Between 1858 and 1871, Dr. Sangster prepared and published a number of school books, which became the exclusively authorized text books in the public schools of the province. Perhaps the best known of the series was "Sangster's Arithmetic." He was also noted for his talents as a writer upon public questions and his powers as a public speaker. In July, 1892, he was the orator of the day at the "hoisting of the flag" ceremony in London, Ont., when he spoke upon the subject, "One Century's Transformation in Canadian Life," and at the Normal School jubilee celebration at Toronto, November, 1897, he delivered a remarkably able address on "Progress in Education." During the equal rights movement in 1890 he was the author of a series letters signed "Gacchus," which attracted much attention. Among his later public appearances was the one at the reunion of former Central School pupils in Hamilton, where he was the honored guest of many of those whom he had taught half a century ago. Dr. Sangster's first wife, was Miss Mary Smith, and eight children were born to them. Of these, four are still living, as follows· Mrs. Arnold Pettit, of London, Ont.; Mr. John A. Sangster, a

successful teacher, in Quebec, and Mr. Robert Sangster, who holds a responsible position with an insurance company, and Dr. Chas. H. Sangster, of Buffalo.

His second wife was Miss Caroline Elizabeth McCausland to whom he was married in 1871. She survives him together with one daughter, the wife of S. C. Corbett, of Winnipeg. and three sons, Dr. Sangster, of Port Perry, and two others in the civil service at Ottawa.

The remains were interred at Port Perry.

EDMUND G. KITTSON, M.D.

Dr. Edmund G. Kittson, died 5th February, rather suddenly, at his residence, James Street, Hamilton. He was born in Cobourg, Ont., 52 years ago. Besides a widow, he leaves one son, Norman. Deceased was in good health during the day, but before retiring said to his wife: "If I want you I will call you" In the morning on going into his room, she found him in convulsions and he died in the afternoon.

BOOK REVIEWS.

SAUNDERS' AMERICAN YEAR BOOK FOR 1904.

The American Year-Book of Medicine and Surgery for 1904. A Yearly Digest of Scientific Progress and Authoritative Opinion in all branches of Medicine and Surgery, drawn from Journals, monographs, and text-books of the leading American and foreign authors and investigators. Arranged, with critical editorial comments, by eminent American specialists, under the editorial charge of GEORGE M. GOULD, A. M., M. D. In two volumes. Volume I, including *General Medicine*. Octavo, 673 pages, fully illustrated; Volume II, *General Surgery*. Octavo, 680 pages, fully illustrated. Philadelphia, New York, London: W. B. SAUNDERS & Co., 1904. Per volume: Cloth $3.00 net; Half Morocco, $3.75 net. J. A. Carveth & Co., Limited, 413 Parliament Street, Toronto, Ont.

The American Year-Book of Medicine and Surgery continues to maintain its high place among works of its class. Indeed, the issue of 1904, now before us if anything, is even better than the excellent issues of previous years. Such a distinguished corps of collaborators which the editor, Dr. George M. Gould, has enlisted as his assistants is sufficient guarantee that the essential points of progress are brought in, and the collaborators' notes and commentations are excellent. In the illustrative feature the 1904 issue fully maintains its reputation, there being fourteen full-page insert plates, besides a number of text-cuts. We pronounce Saunders' Year-Book for 1904 the best work of its kind on the market, as it has always been.

GILLIAM'S TEXT BOOK OF GYNECOLOGY.

A text book of practical Gynecology for Practitioners and Students by D. Tod. Gilliam, M. D., Professor of Gynecology in Starling Medical College, Columbus, O; Gynecologist to St. Anthony and St. Francis Hospitals, Columbus, O; Fellow of the American Association of Obstetricians and Gynecologists; Member of the American Medical Association, of the Ninth International Medical Congress, and of the Pan-American Medical Congress; Honorary Member of the North-western Medical Association, Consulting Gynecologist to Park View Sanitarium, etc. Royal Octavo Pages XVI-634. Illustrated with 350 engravings, a colored Frontispiece and 7 full page half-tone plates. Extra Cloth, $4.00 net, Half-Russia, $5.00 delivered. Philadelphia, F. A. Davis Publishers, 1914-16 Cherry Street.

Among the many recent works on Gynecology, this one should take a good place. It is well got up. The paper, binding, printing, and illustrations are of the very best quality. The author adopts a natural order. He takes up the general causes, then gynecologic examinations, gynecologic technique, disorders of menstruation, malformation, diseases of the vulva, vagina, pelvic floor, fistulae, diseses of the uterus dispacements of the uterus, lacerations, cancer, ectopic gestation, diseases of ovaries, tubes, rectum, bladder, urethra, ureters and kidneys. The above list of contents, though by no means a complete list of the subjects discussed by the author, gives a fair idea of the comprehensive scope of the book. In addition to the fact that the work covers the whole field of gynecologic diseases, the author displays good judgment in his treatment of the various subjects. All useless matter is carefully expunged. The advice on all points is trustworthy.

WHITMAN'S ORTHOPEDIC SURGERY.

A Treatise on Orthopedic Surgery. By Royal Whitman, M. D., Instructor in Orthopedic Surgery in the College of Physicians and Surgeons (Columbia University), New York; Associate Surgeon to the Hospital for Ruptured and Crippled; Orthopedic Surgeon to the Hospital of St. John's Guild; Chief of the Orthopedic Department of the Vanderbilt Clinic, etc. New (2d) edition, thoroughly revised and much enlarged. In one octavo volume of 820 pages, with 507 engravings, mostly original. Cloth, $5.50 net. Lea Brothers & Co., Publishers, Philadelphia and New York.

Orthopedic surgery occupies a broad field and one of very great and general interest. Its most distinctive advance in recent years has been toward the prevention of deformity, an advance that has been made possible by the better understanding of its predisposing and exciting causes. As a natural consequence, treatment has become more direct, more simple, and more effective. It has been the purpose of the author to emphasize this aspect of the subject, which is of the greatest importance to the general practitioner, who so often has the opportunity

to recognize disease or disability in its incipiency, when its progress may be checked by timely treatment.

He has endeavored to outline methods of examination, to explain the phenomena of the symptoms and so to describe and to illustrate the causes and effects of disease and disability as to indicate, in natural sequence, the principles of treatment; but the particular methods of the application of these principles, which have been described in detail, are always those that have been tested by personal experience.

Although this book is designed particularly for students and practitioners of medicine, the author has included statistical and other data, which he hopes may prove of interest to his fellow workers in this special field.

The author construes the early exhaustion of the first edition as evidence that it has met the needs of both classes of readers for whom it was prepared. He has utilized the opportunity afforded by the demand for a new edition by subjecting the work to a very thorough revision, in order to reflect its department to the date of issue. The consideration of new subjects, the more extended description of others, and the addition of some sixty new illustrations, have resulted in a material enlargement of the book, but the general characteristics of the first edition have been retained, and the certainty of a still wider usage enables its issue without increase of price

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SQUINT—ITS CAUSES, PATHOLOGY AND TREATMENT.

By Claud Worth, F. R. C. S, London, John Bale Sons and Danielsson, Ltd., Oxford House, 83-89 Great Titchfield Street, Oxford Street, W.

This excellent book of 229 pages is the result of examining a very large number of cases of squint and watching the results of treatment during a number of years and by investigating the visual functions of normal-sighted people. It is a pleasure to read a work founded on such careful and painstaking investigations. When one considers the amount of time and trouble there is in making notes of 2,337 cases of squint and heterophorias, he must admit that the author, Worth, has fulfilled a useful and valuable sphere in ophthalmology.

In studying the fusion sense, the author made experiments extending over nearly a year in two large crêches and he is of the opinion that this faculty normally reaches its full development before the end of the sixth year. He describes two conditions as present in every case of concomitant, convergent squint, (1) an abnormal convergence of the visual axis, (2) a defect of the fusion faculty. In the chapter dealing with

the treatment of convergent squint, a large number of illustrative cases are cited which add very materially to one's understanding. Regarding prism exercises in heterophoria he says "rhythmic exercises with prisms, cylinders etc., are much employed in America in cases of heterophoria. I have tried them repeatedly and have never seen the least benefit from them." In America there is, no doubt, a tendency to exaggerate the importance of small latent deviation tendencies. But this is, perhaps, less harmful than the almost total neglect which the subject meets with in "this country." If the general practitioners would read this work and understand what really constitutes the "scientific" treatment of a case of squint he would wonder how any one could send a patient to a so called "scientific" optician or travelling refractionist. The printing, binding and cover of the book is in the usual excellent style of British houses.

HALE'S EPITOME OF ANATOMY.

Lea's Series of Medical Epitomes. A Manual for Students and Physicians. By Henry E. Hale, A.M., M.D., Assistant Demonstrator of Anatomy College of Physicians and Surgeons (Columbia University) New York. In one 12mo volume of 384 pages, with 71 illustrations. Cloth $1.00, net. Lea Brothers and Co., Publishers, Philadelphia and New York, 1903.

This is a very excellent little book of nearly 400 pages. It is got up well, the illustrations are both numerous and good. The type, paper, and binding are all first-class. The book can be recommended to all requiring a work on anatomy that is not too large, and, at the same time, trustworthy in every respect.

DISEASES OF THE PROSTATE GLAND.

A Non-Surgical Treastise on the diseases of the Prostate Gland and Adnexa. By George Whitfield Overall, A.B., M.D. Formerly Professor of Physiology in the Memphis Hospital Medical College. Chicago; Marsh and Grant Company, Printers; and the Rowe Publishing Company, 1312 East Washington Street, Chicago.

This small book of 207 pages purports to deal with the non-surgical diseases of the prostate gland and adnexa. His views upon the management of these cases are careful and well advised. He is optimistic of what can be done for patients suffering from various forms of prostatic disease by other than operative treatment. There is an interesting chapter on the neuroses of the prostate, and two chapters on the value of electro-physics, electrolysis, and cataphoresis in these cases. The book merits a large sale.

INTERNATIONAL CLINICS.

A Quarterly of illustrated Clinical Lectures and especially prepared original articles on Treatment, Medicine, Surgery, Neurology, Pediatrics Obstetrics, Gynæcology, Orthopedics, Pathology, Dermatology, Ophthalmology, Otology, Rhinology, Laryngology, Hygiene, and other topics of interest to students and practitioners, by the leading members of the Medical Profession throughout the world. Edited by A. O. Kelly, A.M., M.D., Philadelphia, with the collaboration of Drs. Osler, Musser, Stewart, Murphy, McPhedran, Rotch, Clark, Walsh, Ballantyne, Landolt, Harold, and Kretz. Volume IV, 13th Series, 1904, Philadelphia: J. B. Lippincott Co. Montreal: Charles Roberts, 1524 Ontario St. Price $2.25:

The contents of this volume are both varied and interesting. There are four lectures in Treatment, eight on Medicine, six on Surgery, four on Gynaecology and Obstetrics, two on Neurology, one on Orthopedics, two on Ophthalmology, and one on Pathology. There are nine plates, and a number of illustrations. The contributors are among the highest authorities in the profession, and include such names as James Tyson, John H. Musser, Louis Julien, Sir Dyce Duckworth, Andrew Duncan, James Burnet, Nicholas Senn, Francis H. Davenport, Daniel R. Brower, Casey A. Wood, Joseph McFarland, and others. This is an excellent volume of an excellent series. In every way it is got up worthy of the well known publishers. The material in the book is of a very high class. Indeed, there is not a weak article in it. We can recommend Internal Clinics as certain to give complete satisfaction to those who read their pages.

WOOD'S REFERENCE HAND-BOOK

A Reference Hand-book of the Medical Sciences embracing the entire range of Scientific and practical Medicine and Allied Science by various writers. A new edition completely revised and rewritten. Edited by Albert H. Buck, M.D., New York City. Volume VIII. Illustrated by Chromolithographs and six hundred and eighty-eight half-tone and wood engravings. New York: William Wood and Company, 1904. Toronto: Chandler and Massey. Price, cloth, $7.00 per volume.

This volume includes subjects from the word "Saccharin" to "ulcer". The volume contains 950 pages. There are about 130 contributors. We have already reviewed the six volumes which have already appeared. That this is a great work, every one who has had any acquaintence with it will at once admit. These volumes form a complete library of medical knowledge. Take any letter and go over it with the utmost care and one fails to find any subject that has been omitted, or imperfectly handled. The illustrations, too, are of a superior character. In every way, this volume is up to the very high standard of the previous six volumes. In the present volume we notice that a number of Canadians have written important sections. Dr. Buller, of Montreal; William S. Morrow, of Mon-

treal; A. G. Nicholls, of Montreal; William Oldright, of Toronto; F. J. Shepherd, Montreal, and Beaumont Small, of Ottawa, may be mentioned. Their portions of the volume are creditably done. In addition to the above, who hold important positions in this country, we also notice that two former Torontonians contribute chapters, namely, R. R. Bensley and Lewellys F. Barker, both now in Chicago. Dr. Bensley writes a very able article on the "Anatomy and Histology of the Stomach," and Dr. Barker a lucid and exhaustive one on the "Spinal Cord." We take great pleasure in referring specially to these able articles.

The series of which this is one of the volumes, occupies a unique position. It is undoubtedly a standard work.

LAKE'S DISEASES OF THE EAR.

Hand book of diseases of the ear for the use of students and practitioners. By Richa d Lake, F.R.C.S., Eng., Surgeon of Royal Ear Hospital, Lecturer on Practical Otology, Medical Graduates' College. With three colored plates. London: Baillière, Tindall and Cox, 1903. Price 6 shilling, net.

This is a very excellent little book of 230 pages. It covers the ground of otology in a careful and complete manner. The illustrations are good and the descriptions of the various diseases and operations clear and brief. For the general practitioner this is a useful hand book. The book is got up in attractive form. We can heartily recommend Dr. Lakes's book.

THE MILITARY MEDICAL SERVICE OF JAPAN.

EDITOR, CANADA LANCET,

Sir,—The war between Japan and Russia is arousing so much interest at the present time, that it would seem a short account of the medical arrangements of the two armies might prove of interest. The succeeding remarks are founded on an excellent report by Colonel William Taylor, now Surgeon General Sir William Taylor, D.G., who was sent out by the Imperial Government to observe the medical service in the China-Japanese war of 1894.

THE JAPANESE REGIMENT of infantry consists of three battalions of four companies each, of a total strength of 2,400 officers and men. In each regiment there are 48 regimental bearers, distinguished by a red band worn above the elbow of the left arm. The scope of the regimental medical sevrice in action comprises, medical aid in the fighting line and at the dressing stations. These stations are closed when the

bearer companies begin their work. The medical officer and his assistants are employed at the front under fire at the temporary dressing stations referred to, but the Japanese regulations require the regimental medical service to keep well closed up with the fighting line, and to conform to its movements. The equipment is similar to that carried by all armies, but is very liberally supplied. The medicines are of the usual European kinds, morphia, iodoform, Hoffman's anodyne, etc.

THE BEARER COMPANY forms a divisional organization, consisting of a central administration and two subdivisions of three sections each, of a total strength of 416 officers and men and fifty-one horses There are ten medical officers and four pharmacists. This column is under the control of the division commander, who is advised by the chief of the division medical staff. Each bearer column bears the name of the division to which it belongs, and is organized so that it can at any time be divided into two equal parts. Ordinarily, one-half marches with the advance guard and the other half in the main body. The function of the bearer company is to act between the dressing stations and the field hospitals.

THE DRESSING STATION is divided into three sections, indicated by flags of different colours. 1. Receiving and forwarding section, (blue flag). 2. Operating section, (white). 3. Dressing section, (red). The dressing stations are, in addition, distinguished by the the Geneva Red Cross flag by day, while they are marked by red lanterns at night. The identification of patients is secured by a metal label worn by all ranks. The registry of all property is also provided for. The medical and surgical equipment of the bearer column consists of four panniers, eight reserve panniers, ninety-six stretchers, and two tents, for the carriage of which thirty-six horses are allotted. The stretcher is made of bamboo with canvas bottom and moveable cross pieces. Most of the land carriage of patients is done with these stretchers and the native springless carts. There does not appear to be a provision for ambulances, though I understand a large number have been ordered from a firm in the United States for the purposes of the present war.

FIELD HOSPITALS. There are six field hospitals in each division, three are with the first line of transport and three with the second. Their function is to receive patients from the dressing stations, or directly from the fighting line, to continue or complete the treatment previously received, and to be prepared for rapid evacuation should it become necessary. The personnel of these field hospitals for each division consists of 48 officers, 108 non-commissioned officers, 510 men, and 264 horses. The quota of patients for each hospital is 200.

TRANSPORT. Passing from the field hospitals to the rear, along the lines of communication to the base, the patients are in the hands of hospital transport corps. There is also a reserve medical staff and a reserve medical store.

The supreme medical control is vested in a field medical commander, who is chief of the medical department of the war office, and, during war, serves with the grand headquarters of the army and with him he has a personal staff of four. The army is also supplied with hospital transports and a hospital ship. The latter has accommodation for 50 officers and 200 men (patients).

GENERAL HOSPITALS AT THE BASE. The reserve hospitals are established either within military garrisons or without, and bear the name of the locality where they are located. They have an establishment of from 42 to 70 officers and men of the hospital corps.

THE RED CROSS SOCIETY. The Red Cross Society was inaugurated in 1886 and had, in 1894, since largely increased, 75,902 members, employing 1,170 medical officers, female nurses, and orderlies.

The first aid dressing used is Dr. Kikuchi's straw ash pad. It consists of straw ashes, freed from grit and put up in muslin bags. Applied directly to the wounds it is said to be very absorptive and aseptive. If there is no discharge from the wound it is applied dry, but if it discharges freely the pad was first soaked freely in bicholoride solution.

THE FOOD OF THE ARMY in time of peace, consists of 36 ounces of rice and 6 cents for the purchase of chicken, beef, pork, fish, or vegetables, tea, pepper, and miso, a kind of pea flour. That amount of money does not purchase much of these articles, but the Japanese are satisfied with a very small proportion of animal food, if they can have their rice flavoured with fish or "soy." The rice is boiled in bulk in large pots for each section of a company. The daily field ration consists of rice, 36 oz.; chicken, beef, pork, or fish, 5 oz.; of preserved meat, $2\frac{1}{2}$ oz.; or dried meat, 4 oz.; with vegetables, fresh. 5 oz.; or dried vegetables, 2 oz.; spice, $1\frac{7}{8}$ oz., preserved plums, $1\frac{1}{2}$ oz.; and salt, miso, tea, a sufficiency. The cooking is very simple. If the men were with their regiments the cooking utensils were up with the column, the rice was boiled in large boilers and the preserved meat, vegetables, etc., which each man carried for himself, were added by the men themselves. Each battalion carried a box containing appliances for analysis of water, and medical officers were sent on ahead to examine each proposed camping place. Each battalion also carried wooden filters. The water was, where necessary, ordered to be boiled, but this was often not carried out, as it appeared to be nobody's business to see that it was done.

DRESS. The weight of the infantry clothing and equipment, including rifle, ammunition, and special ration, was 56 pounds 13 ounces. Besides the ordinary greatcoat during cold weather, the officers and men, mobilized for the war (1894), had one made of brown blanketing, with a hood and special covering for the head, concealed under the collar, and a pair of mittens of the same material as the coat. It came down to the ankles and had a band to buckle around the waist. The men in the field had a paper shirt and a pair of drawers. In very cold weather these were worn between the usual under and over shirts and were said to be very warm. There was considerable suffering from ill fitting shoes and canvas gaiters and cotton socks. The knapsack was faulty and pressed unduly on the chest and armpit. The material of which the tunic and trousers were made was of blue cloth with stripes of different color to distinguish the different arms of the service.

It will be noticed that the Japanese are supplied with very adequate and liberal medical service, and General Taylor speaks in glowing terms of the devotion and bravery displayed by the bearers in bringing wounded men under fire. The free use of voluntary aid through the medium of the Red Cross Society is noticeable. I think that it is admitted that no nation maintains, even in time of war, a sufficient medical establishment to meet the requirements. It will be remembered that during the late South African war the St. John Ambulance Association supplied upwards of two thousand trained orderlies for hospital work, and that the Red Cross Society contributed more than three million dollars worth of supplies for the sick. It is painful to think what would have been the fate of the sick and wounded without this adventitious aid. We ought in this country to develop these societies, especially the ambulance association as a reserve for the Army Medical Corps, for trained orderlies cannot be improvised at a moment's notice.

Yours, etc.,

G. STERLING RYERSON, M. D.,

Colonel, Canadian Army Medical Staff.

MISCELLANEOUS.

VINO DON LORENZO.

This is a good wine, and is very carefully medicated with pure and reliable extracts. It contains extract of kola nut, antiseptic salts, aromatics, and iron. It is a valuable tonic in general debility and anæmia. It has been employed in such conditions as anæmia, grip, fevers, malaria, dyspepsia, neurasthenia, insomnia, heart affections, general dibelity, neuralgia, loss of appetite, etc. We can recommend this wine to those requiring to prescribe a medicated wine.

FACETIÆ MEDICORUM.

The New York Pharmacal Association has issued a booklet *Facetiæ Medicorum*, gleaned from the files *Doctors' Factotum*. This little booklet is full of wit and humour. Any physician who may not have received a copy, is requested to write for one to the New York Pharmacal Association.

ANTIPHLOGISTINE.

Dr. Colin Campbell, Southport, Eng., L.C.R.P., M.C.R.S., writes in the *Medical Press and Circular*, London, Eng., Oct. 7, 1903 :—

PLEURISY.—Dr. B. was under my care last winter suffering from a pulmonary cavity. He had had previously two or three intercurrent attacks of pleurisy, which I again found present on Dec. 7th, 1902, accompanied by severe pain over the cavity, and a temperature of 103°. His previous attacks had occurred at his home, where careful poulticing was practicable, but in apartments this was unsatisfactory, and so it occurred to me to try Antiphlogistine.

The material was warmed and "trowelled" on for many inches around the pleuritic centres, then covered with non-absorbent lint and Jaconet.

The result was remarkakle ; the pain disappeared within an hour, and the high temperature within two days.

Many advantages over poulticing were noticed by the patient ; facility of application, no unendurable heat, rapid relief from pain, its adhesiveness rendered movement possible without tight bandaging or the alternative sudden influx of cold air which follows the separation of a poultice from the skin.

Chilblains to many will appear a trifling matter, but as one whose school days in winter were rendered miserable by them, I can assert

that they are most maddening. Last wintee my daughter, aet. 11, suffered from them severely. Each time Antiphlogistine was applied, the redness and intolerable itching disappeared in a night. I have tried remedies iunumerable with no such result.

"Many a man is to-day worrying over a case or two of pneumonia, pleurisy, or capillary bronchitis, whose troubles would flit away like mist did he but know enough to put his patient into a jacket of Antiphlogistine."—*Medical Summary*, Nov., 1902.

IN MEMORIAM WILLIAM M. WARREN.

In loving memory of a beautiful and beneficent life, we the assembled directors, executives and employees of Parke, Davis & Company, would fain express the sorrow and heartache caused by the untimely death of our General Manager, William M. Warren. For the relief of of our own grief, as a just tribute to a life rich in effective performance, and in deference to the sentiments of a wide circle of surviving friends, we record this testimony to the noble character, the massive and solid integrity, the large, warm, generous heart, the brilliant and gifted mind, the abounding energy of our beloved friend. As long as life and memory may linger in our mortal frames we shall cherish the recollection of his lofty spirit and winning manners—simple, sweet, and genial. The benevolence of his heart shone out in the engaging smile, in the keen and penetrating yet kindly eye, which gained for him a friend in every acquaintance, No man ever lived whose granite-like probity inspired quicker or more lasting trust. To know William M. Warren was to like him; to know him well was to love him and trust him to the gates of death. And what living creature ever trusted him in vain? His simple word was a tower of strength. When did he ever fail in the whole span of his short but shining life to fulfil his plighted faith with a chastity of honor that knew no stain—nay, when did he fail to beggar his promise by the opulence of his performance? Gifted he was, but his strength lay as much in moral weight as in mental endowment, and his remarkable success was only the destiny of character.

HAY FEVER.

In the United States the majority of cases of hay fever occur in the fall of the year, and for this reason the disease is often designated autumnal catarrh. There is only one reliable way of preventing the attacks, and that is a change of residence to some place, whether the seashore or mountains, where susceptible persons may enjoy immunity

from this distressing disorder. Few, however, can avail themselves of this plan, and the vast majority of sufferers are compelled to rely upon medical treatment. Internal medication has proved of limited utility, but the results of local treatment have been much more encouraging. In most instances there is present a catarrhal condition of the nose and throat, frequently extending down to the bronchi, and giving rise to constant sneezing, profuse nasal discharges, cough and asthmatic attacks. These symptoms can be greatly relieved by inhalations of vapo-cresolene, which exerts a soothing effect upon the affected mucous membranes, and penetrates to places which cannot be reached by sprays, insufflations or other topical applications. If the air of the bedroom is charged with cresolene vapor, which is perfectly harmless, the sufferer will be able to rest in comfort, and be spared the exhaustion due to the loss of sleep, which is often present in these cases. Under the use of vapo-cresolene an attack of hay fever not only runs a shorter course, but is divested of most of its disagreeable features.

THE DECADENCE OF OPIUM.

We would not banish opium. Far from it. There are times when it becomes our refuge. But we would restrict it to its proper sphere. In the acute stage of most inflammations, and in the closing painful phases of some chronic disorders, opium in galenic or alkaloidal derivatives, is our grandest remedy—our confidential friend. But here, the application should cease ; and it is just here that the synthetic products step in to claim their share in the domain of therapy. Among the latter, perhaps none has met with so grateful a reception as Antikamnia Tablets, and justly so. Given a frontal-temporal-vertical or ocipital neuralgia, it will almost invariably arrest the head-pain. In the terrific fronto-parietal neuralgia of glaucoma, or in rheumatic or post-operative iritis, they are of signal service, contributing much to the comfort of the patient. Their range of application is wide. They are of positive value in certain forms of dysmenorrhœa; they have served well in the pleuritic pains of advancing pneumonia and in the arthralgias of acute rheumatism. They have been found to allay the lightning lancinating, pains of locomotor ataxia, but nowhere may they be employed with such confidence as in the neuralgias limited to the area of distribution of the fifth nerve. Here their action is almost specific, surpassing even the effect of aconite over this nerve.—*National Medical Review.*

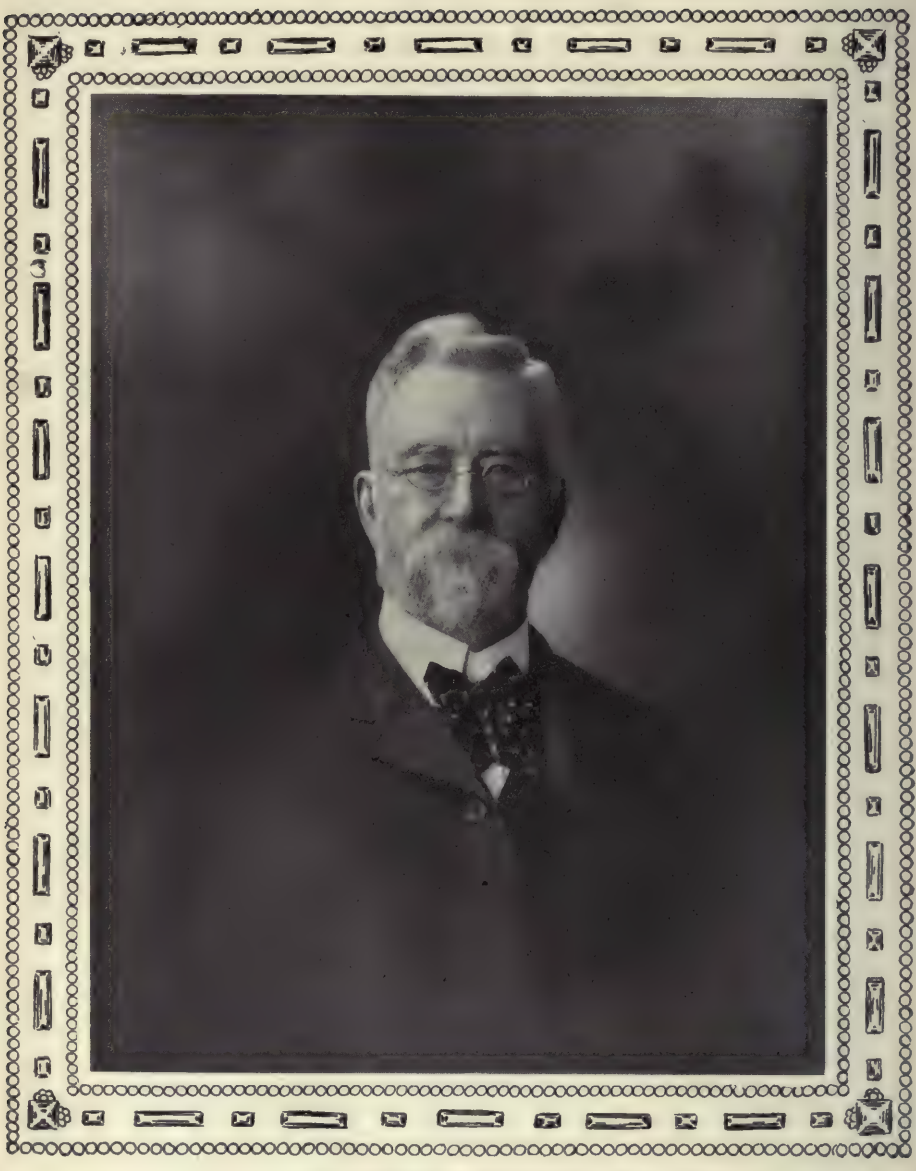
APOLLINARIS WATER.

The London *Lancet* of the 30th January, 1904, publishes a long and interesting article headed "Some points concerning Natural Mineral Waters in general ,and Apollinaris Water in particular." In view of a

recent action, in which the question whether Apollinaris was entitled to be called a Natural Mineral Water was decided in the affirmative, the *Lancet* has sent a special Commissioner to visit the Apollinaris Spring in Germany, and he now reports the result of his investigations there, and sets forth numerous analysis made on the spot, and of Apollinaris purchased in the open market. The article concludes as follows :

"It is difficult to suggest, in the face of the facts just recorded and of the experience which has decided upon the adoption of the methods of bottling Apollinaris which we have described, how those methods could be altered with any possible advantage to the public, or how any modification of those methods would enable the public to receive the water in a condition more natural than it is. As a matter of fact, Apollinaris water is bottled in such a way that the natural equilibrium of the water and its compliment of gas at a depth of 50 feet in the spring are preserved in the bottle for public use. Both water and gas are absolutely the natural products of the spring, and the composition of the bottled water is, according to our analysis, always the same and without any appreciable variation in the mineral constitutents. Some portion of a useless constituent, in the form of oxide of iron (the total amount in the water being quite minute) separates from the water prior to bottling, but a useful constituent, in the shape of a small quantity of salt, is added to augment the amount of salt already naturally present in the spring, in order to prevent the possible decomposition to which the sulphate of sodium of the water is occasionally liable. The taste of the water in bottle is identical with that of the water taken directly from the spring. Apollinaris water has a peculiar soft flavour which is due, not to common salt at all but in part to the alkaline carbonates which neutralise the acids in the mouth, and in part to the natural state of combination of the mineral ingredients. As Professor Oscar Leibreich has said, 'even the best manufactured artificial mineral waters differ from the natural ones in taste and value.' There is nothing disclosed in our analysis of the bottled water which is not found in the water at the spring. In view of these facts which we have taken some trouble to ascertain for ourselves, it seems to us that the recent decision of the Lord Chief Justice that Apollinaris water is entitled to the description of a natural mineral water is in accordance with both law and common sense.

"We may add that our analysis and observations are in substantial agreement with those given at various times by the late Professor Virchow, Professor Bischof, Professor Liebreich, Professor Mohr, Professor Hofmann, Professor Kekulé, Professor William Odling, and the late Sir Edward Frankland."



THE LATE JOHN HERBERT SANGSTER, M.A., M.D.,
Port Perry, Ont.

THE CANADA LANCET

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THE EXPERIMENTAL PRODUCTION OF ANTITOXIC SERA AND THEIR VALUE IN THE TREATMENT OF TUBERCULOSIS.

By Albert G, Nicholls, M.A., M.D., C.M., Assistant Professor of Pathology, McGill University, and Assistant Pathologist to the Royal Victoria Hospital, Montreal.

IN the following pages the writer has attempted to give a brief account of some interesting experiments that have occupied his attention for some months past, and to discuss the present status of the tuberculosis question, more especially in regard to certain therapeutic problems involved.

No one in the present day will deny that one of the most important subjects that can occupy the attention of scientific minds is the discovery of some specific curative agent for the treatment of tuberculosis. The disease in question is almost universally admitted to be the greatest scourge from which humanity is suffering. The discovery of an antitoxic serum for diptheria, and the brilliant results that have followed its use, opened up a new chapter in the story of rational therapeutics, and we fancied ourselves on the verge of the most startling advances. Yet, in spite of the continued investigations of some of the ablest of our experimentalists, the brightness of this first promise has not been realized, and we have to confess to a certain degree of disappointment in the results hitherto achieved. The problem is by no means so simple as, at first sight, it appears, and the numerous attempts at its solution on the lines of Behring and Roux's classic researches have to a large extent proved to be failures. We may be prepared, to some extent, to understand this if we consider in what way tuberculosis differs from the majority of infective diseases. Tuberculosis is not a self-limited disease nor does it, so for as we know, kill by septicaemia It belongs to the same group of affections as syphilis, leprosy, and actinomycosis, in which the characteristic lesion is the inflammatory granuloma. We have, therefore, on the one hand effects referable to circulating toxins, and, on the other, local destructive or constructive lesions, which lead to grave disturbance of the organ involved, with possibly certain remote mechanical effects. It will readily be understood that this condition of things is quite different from that which obtains in, say, diphtheria, where we

have an acute disease which produces its most serious effects by its toxin, and steadily progresses to either rapid cure or a speedy death. The rationale of the operation of the specific antitoxin in diphtheria appears to be that it neutralizes or, at least, renders the toxin relatively innocuous until nature has time to assert itself, and the disease comes to an end. The bacillus of tuberculosis is generally believed to be a rather strict parasite, and it finds a particularly suitable soil for its growth in animal tissues. It is conceivable, then, that, even if we were able to counteract its toxins, the germ might still be able to grow and produce its local destructive effects. And, in fact, practical experience with antitoxins has shown that they are efficacious in direct ratio to the virulence of the diseases in which they are employed.

With regard to the treatment of tuberculosis, it may be just mentioned, that there are three main methods of treating the disease.

1. The drug treatment, which in some quarters seems again to be coming into vogue.
2. The specific or serum treatment.
3. The climatic treatment.

The last mentioned of these is the one which at present has most firmly established itself in the mind of the medical profession, and, certainly, the results achieved, namely, forty to sixty per cent. of cures in suitable cases, in default of anything better, are encouraging. It is, however, not with this but with what is called "serum-therapy" that I wish to occupy myself at the present time.

The term "Serum-therapy" has been used somewhat loosely in the past to denote the attempts at specific medication by means of toxins and anti-toxins. An important school, lead by Koch, seeks to produce immunity and cure the disease by the use of certain poisons derived from the tubercle bacillus, or chemical modifications thereof. In this category belong the various tuberculins, oxytuberculin, tuberculocidin, antiphthisin. Here the idea is to stimulate the cells of the body to the elaboration of antitoxic substances which will neutralize the poisons produced by the bacilli. Everyone knows how visionary this has proved. Strictly speaking, serum-therapy is more correctly applied to the method of treatment by antitoxins. In this case experimenters have endeavored by the injection of extracts of the tubercle bacilli, or in some cases the living attenuated germs, to produce immunity in some of the lower animals, and to use the blood serum of animals thus fortified in the treatment of human tuberculosis. It is with work of this last class that this paper will exclusively deal.

The interest in this phase of the subject dates back to the epoch-making work of Héricourt and Richet, which was first undertaken in 1888. They noted the important fact, that if a rabbit be inoculated with the staphylococcus pyosepticus, to which it is very susceptible, it may be rendered refractory to its action by the intraperitoneal injection of dog's blood, an animal which possesses a natural immunity to this infection. This suggested that the same thing might hold in the case of tuberculosis. Without entering into details, the conclusions to which they came, were :—

1. That in animals the subject of experimental tuberculosis, the injection of dog's blood will arrest the disease, provided the germ be not too virulent, and will retard it if it is very virulent.

2. The serum of a dog injected into a healthy rabbit will prevent the subsequent development of experimental tuberculosis.

2. The serum of a dog previously inoculated with tuberculosis, when injected into rabbits already tuberculized, will aggravate the disease.

Héricourt and Richet did not believe that dogs' serum possesses a specific curative action in tuberculosis, but it appeared to exert a powerful tonic influence on nutrition.

The special credit due to Héricourt and Richet lies in the fact that they were the first to suggest the posibility of devising a specific medication in tuberculosis by the injection of tuberculous virus. The existence of a tuberculous antitoxin, however, was demonstrated in 1895 by Maragliano, who was the pioneer, in the practical application of the antitoxin theory to the treatment of human tuberculosis. Since this time much painstaking work has been devoted to this problem and, in addition to those mentioned, we should inscribe on the roll of honour, the names of Koch, Babès, Maffucci and Di Vestea, Behring, Trudeau and De Schweinitz.

It is, of course, impossible in a limited article to go into the details of the very numerous investigations that have been prosecuted. In general, we may say that the methods employed have been to inject various tuberculins or extracts from the bacilli, or again, the living and attenuated germs, into certain of the lower animals, such as the rabbit, horse, sheep, goat, cow, or monkey, until a certain amount of immunity was produced. The serum from these animals was then tested for therapeutic efficiency on tuberculized experimental animals, and in some cases on human beings. The results reported have been somewhat conflicting. It may be said, however, that in no case has it been possible to cure the disease in this way, or even to prevent experimental infec-

tion. At most, there has been in some cases, a retardation of the process. The best results have been attained by the use of antitoxins representing as nearly as possible the complete metabolic activity of the germs, or by the injection of the living organism. It has, indeed, been possible to produce immunity by the latter plan, as the work of Trudeau and Baldwin has shown in the case of rabbits, and the more recent researches of Von Behring on the calf. Many experimenters have hoped to get better results by using as antitoxin-producers, animals that are generally supposed to be refractory to tuberculosis, such as the sheep and goat. The advantage of this has proved to be very questionable. In the few experiments that I have made, which have been carried out on slightly different lines from those hitherto published, I have employed goats, as being generally convenient and possessing a high degree of relative immunity. It is a well recognized fact that the blood serum of many normal domestic animals possesses what may be called natural antitoxic bodies, so that my first endeavors were directed to determining whether this is the case with regard to goat serum and tuberculosis. Should it prove to be so, then it might be attempted to increase this natural potency.

For the purpose of the experiment it was obviously necessary to obtain the serum without contamination from bacteria, and as nearly normal as possible. To attain this the following method was adopted. A large healthy male goat was taken, the hair was removed over the course of the external jugular vein in the neck, and the skin washed and sterilized by means of a solution of sublimate (1-1000). A large sterilized trocar, attached by a rubber tube to a sterilized bottle was then inserted into the vein, and the blood allowed to flow into the vessel. The serum was allowed to separate in a cold chamber, the clear portion carefully decanted off, and one-quarter per cent. of chloroform added as a preservative. It was found that the serum thus prepared kept perfectly well for some weeks.

Experiment I.

The first experiment was conducted under the following conditions. Eight guinea-pigs and ten rabbits, presumably in good health, were taken, and their weight and temperature, before inoculating, were obtained. They were then numbered and kept in separate hutches. On March 13th, 1902, they were inoculated, one half intraperitoneally and the other under the skin of the left leg, with a culture of the bacillus tuberculosis of extremely mild virulence, standardized as follows:

A culture of the bacillus typhi abdominalis taken from an old laboratory stock was inseminated in 1.5 per cent. acid broth, and grown in the incubator at the usual temperature for twenty-four hours. The culture obtained was then killed with formalin vapour and used as a standard. A glycerine agar culture of the tubercle bacillus referred to was ground up in a sterile mortar with sterile normal saline solution. This was allowed to stand until the heavier portions had sunk to the bottom. The opalescent supernatant portion was carefully decanted off and diluted with sterile normal salt solution, until it reached the same degree of opacity as the standard culture of the bacillus typhi. Hanging-drops were then examined under the microscope, to see that there were no gross masses of bacilli floating about. One cubic centimetre of this material was then used for inoculating. Care was of course taken, as far as possible, to avoid contamination in the course of the various manipulations, sterilized vessels and instruments being invariably employed.

The animals were shaved at the desired points and the skin sterilized with bichloride, 1-1000. The inoculations were made with an all-metal syringe of five c.c. capacity, previously boiled.

The reason for using a culture of weak virulence to begin with, was that guinea-pigs are very susceptible to tuberculosis, and it was suspected, from observations already published, that should goat serum possess any antitoxic powers, these would be extremely slight.

One half of the animals were inoculated subcutaneously over the abdomen with two c.c. of normal goat serum every second day. Subsequently the temperatures were taken every day, and the weights once a week.

Instead of estimating as others have done, the effect of the injections, by keeping the animals until they die spontaneously, and taking into consideration merely the loss of weight, it was thought advisable, as we were dealing with germs of such mild virulence and there was a possibility of the animals recovering, to kill them at stated intervals, and determine the amount of tuberculosis by the naked eye and the microscope. By this method an exact appreciation of the state of things could be obtained. By arranging them in pairs, according to weight, it was moreover possible to compare animals of approximately the same degree of resisting power

Two guinea-pigs and two rabbits died spontaneously before the conclusion of the experiment, apparently from some gastro-intestinal disturbance. The rest of the pigs were killed after thirty days, and one-half of the remaining rabbits about the same time. The first animals killed presented so little pathological change, that it was thought

advisable to keep the remaining six for two weeks longer, in the hope that the lesions would be more marked. Autopsies were performed at various times with the special object of determining the extent of the disemination of the tuberculosis virus, the effect of the serum injections, if any, and the character of the bacalli of tuberculosis found in the various parts. Portions of the organs were examined microscopically, both by the hæmotoxylin method and the modified Ziehl-Neelsen method for tubercle bacilli. Smears were made from the organs and stained for bacteria. Cultures were also taken from the organs.

Without going into the full details, it may be stated that of the guinea-pigs, only one (No. 2) gave evidence of any dissemination of the tubercle bacilli to any distance from the site of the original inoculation. It had not received serum. In Nos. 1 and 4 the inguinal glands were affected; the bacilli were discovered in No. 1 which had not received serum, but not found in No. 4, which had. In No. 6, which had received serum, the infection was strictly localized to the site of inoculation. In those inoculated in the leg, Nos. 3, 5, 7, and 8, all except one showed enlargement of the inguinal glands. In only one that had not received serum were the bacilli discovered (No. 3). One that had received serum did not develop a local lesion (No. 8).

In the case of the rabbits, only one developed gross tuberculosis (No. 8), and this one had not received serum, This result was in general what one would have expected, as rabbits are much more refractory to tuberculosis than are guinea-pigs. None of the culture tubes developed the specific bacillus and when found in smears, they were in a state of extreme fragmentation and degeneration, showing that the infection was an extremely mild one. So far as I could see, the inoculation of serum had no effect whatever upon the temperature of the animals receiving it, but the rabbits so treated lost weight rather rapidly, although the pigs were unaffected. This was probably due to interference with the feeding, for the injections produced extensive areas of coagulation-necrosis in the abdominal wall, and in one or two instances there was slight superficial suppuration. Apparently the injections of serum had some slight deterrent effect on the development of the tuberculous lesions, but it was felt that it was unwise to draw any positive conclusions from such a small series of animals, particularly with so mild a germ, so a second experiment was undertaken on similar lines, but with several modifications suggested by the experience with the former series.

Experiment II.

Six guinea-pigs and twelve rabbits were placed under exactly the same conditions as to food, exercise, etc., and weighed at intervals of a week until the average normal weight was established. They were then grouped in pairs according to weight. Rectal temperatures were taken daily for ten days to establish a mean normal temperature. Both the weights and the temperatures were found to vary in health between rather wide limits. The average temperature of the pigs was from 102° and 3-10ths to 102° and 8-10ths; that of the rabbits from 102° to 103° and 2-10ths.

All, with the exception of two rabbits which were retained as controls, were inoculated with one c.c. of an emulsion of a more virulent, though still mild, culture of the tubercle bacillus in normal saline, standardized as before. One-half of the animals were given the inoculation in the left leg subcutaneously; the other half intraperitoneally. Three days after inoculation one member of each pair was given a subcutaneous injection of one c.c. of a fresh supply of normal serum from the same goat, collected with the same precautions as before. This was repeated every third day until the close of the experiment. The reason for reducing the dose was the marked local disturbance caused by the injections in the first series of animals. Two rabbits were also given serum but without tuberculosis. During the course of the investigation daily temperatures were taken and the animals were weighed weekly. A few of the animals died spontaneously before the six weeks allotted to the experiment had elapsed, but the remainder were killed in pairs on the same days. The post-mortem examination was made immediately. In estimating the amount of disease resulting, I took into consideration the dissemination of the disease in the various organs, the amount of tissue distruction, the amount of repair if any, the histological appearance of the lesions, and the morphology of the bacilli found.

It was found in the course of this experiment that after the injection of the bacilli the average temperature of the animals was raised one degree. The average temperature of pigs and rabbits before inoculation was 102.52°; after, it was 103.41°, in the case of animals not receiving serum, and 103.62° in those given it. In the control animals that were given serum alone, the temperature in one was only slightly elevated, in the other normal. We may thus conclude that the injection of the serum had no effect on the temperature curve. With regard to the weights it was different. The animals given serum lost 22.27 per cent. of their body weight; those not receiving it lost only 10.45 per cent. As a rule rabbits inoculated with tuberculosis preserve their

nutrition surprisingly until toward the last when they go down hill rather rapidly. The injection of the serum, although given in less than half the quantity employed in the first instance, caused considerable local disturbance, and this was aggravated by the animals scratching themselves. The loss of weight is, no doubt, to be attributed to the interference with their feeding thus produced.

In comparing the results I found, as before, that guinea-pigs are much more susceptible to tuberculosis than are rabbits, losing weight rapidly from the first and presenting marked lesions when killed. These facts led me to keep the rabbits under observation some three weeks longer, in the hope that thus the resulting disease would be more pronounced. This, however, did not prove to be the case.

After a careful consideration of the extent and nature of the lesions produced in the pigs it could not be said that the injection of the goat serum had the slightest effect in inhibiting the action of the bacilli. The results in the case of the rabbits were rather more promising. The most marked difference was found in rabbits III and XII. Number three which had been given serum presented no positive appearance of tuberculosis, whilst its mate, number twelve, presented caseation at the site of inoculation and tubercles on the peritoneum On the whole the lesions were slightly more marked in the case of the rabbits not receiving the serum. In corroboration of this finding may be cited the results of the first experiment where the two animals that did develop tuberculosis were those that had not been given serum. It is, of course, hazardous to draw too positive conclusions from such a small number of animals; but it would appear, so far as we have gone, that normal goat serum does have a slight retarding effect on the progress of tuberculous infection. Whether this action is specific or not is another question. Recent work has shown that the sera of other animals, such as the dog and the horse, as well as normal saline solution, possess similar properties.

Having drawn this conclusion, it was thought advisable to attempt to confer upon the serum more definite antitoxic properties. The method adopted was based upon that employed in the production of diphtheria antitoxin, namely, the introduction of the toxins of the bacillus into the system of an animal until it was immune to the effects, and then, using its serum as a curative agent. As has been pointed out, most of the work on these lines has proved to be a failure, or at most has had a very limited meed of success. This is possibly due, at least in part, to the fact that the toxins and extracts of the tubercle bacillus used for immunizing purposes have been obtained by heat or by various chemical processes, so that they do not represent the full toxic properties of the

bacillus. To obviate this objection Koch's new tuberculin (Bacillen-emulsion) was employed. Perhaps a word or two of explanation as to the nature of this substance may not be out of place at this juncture.

Koch takes a definite weight of tubercle bacilli, filters them from all culture fluids, grinds them up with two hundred parts of 1-50 normal soda solution, and then centrifugates. He then pours off the supernatant fluid, adds weak acid to the residue until only slightly alkaline, and finally dilutes with a standard weak solution of carbolic acid and saline to the extent of one to three thousand. Glycerine is also added, and the final emulsion represents five milligrammes of pulverized bacilli in every cubic centimetre (Deutsche med. Woch Nov. 28, 1901). The injection of this into tuberculous persons brings about a rise of temperature of one and a half to two degrees centigrade. The dose at the first injection is 0.0025 milligramme, rapidly increased two or five-fold until the reaction appears.

To obtain convenient amounts for injection, the bacillus emulsion was diluted according to Koch's directions with a standard diluting solution containing 0.8 per cent. sodium chloride and 0.5 per cent. carbolic acid. Three strong healthy goats were subjected to the injection of the bacillus emulsion in gradually increasing amounts, the whole procedure extending over seven months. The reason for spreading injections over so long a period was that it had been found by Maragliano and others that the animals stand the treatment better and the results are more satisfactory. The injections were given subcutaneously in the neck under strictly aseptic conditions once a week until towards the end of the allotted period. Previously, however, the normal temperature for the goat was ascertained. The amount of the emulsion injected was at first .0025 milligrammes repeated for three weeks and cautiously increased until at the end of three months the goats were receiving 0.015 milligrammes. Subsequently, the amount injected was doubled each week, until at the end of the seven months 15 milligrammes were reached. After the first three months also the temperature before inoculation was taken as well as afterwards twice in the twenty-four hours. The normal temperature of the goat varies between 101 and 103 degrees, Fahrenheit. In only one case did the injection of 10 mg. cause a rise in temperature from 102 to 103 degrees and 3-5ths, but this was only 3-5ths of a degree above the maximum normal variation. The subsequent injection was lessened to 7.5 mg. and then again increased. During the last few weeks while such large amounts were being employed the injections were only given once in from ten to fourteen days After the animals were considered immune to the emulsion a period of

three weeks was allowed to elapse, until all excess of the toxin should have been eliminated from the system. One of the goats was then bled from the jugular vein with the same precautions as before adopted, and the serum used for the purposes of the experiment Tested by the Arloing-Courmont method, as to its powers of agglutinating a homogeneous culture of the tubercle bacillus, kindly furnished by Prof. Courmont, it gave a positive reaction in a dilution of one to fifty.

Experiment III.

In carrying out the third experiment I labored under considerable difficulties. Owing to the great disturbance caused by the injection of the serum in guinea-pigs it was thought better to use rabbits exclusively. Ten rabbits were taken, their temperature was noted daily for a week to establish a normal average, and their weight was recorded. They were then grouped in pairs according to their weight. Four were injected intravenously through the auricular vein; four intraperitoneally; and two in the left leg, with one-half c.c. of an emulsion of a mild tubercle bacillus in saline solution, standardized as before. One member of each pair was given regular doses of one ccm. of the fortified goat serum. Unfortunately, after the experiment was well started, rabbit septicæmia broke ont in the hutches and about half the animals had to be replaced. At the end of a month several of the animals were killed but it was found that the germ was not virulent enough to produce characteristic lesions. The animals were, therefore, reinoculated with the same quantity of an emulsion made from a mild culture of bacillus tuberculosis received from Dr. DeSchweinitz, of the Bureau of Animal Industry, Washington. In addition, two other rabbits were inoculated in the anterior chamber of the eye, affording a convenient means of watching the progress of the tubercular infection. At the end of another month four rabbits were killed and again no lesions were found. The results of more than two months' work were almost nil, although they served to indicate the effect produced by the antitoxic serum on the healthy organism. The average temperature before inoculation of the rabbits which did not receive serum was 102.9 degrees and the average weight 1865 g. After the injection of the tubercle germs the average temperature was 102.7 degrees and the weight 1878 g. The average temperature, before inoculation with tuberculosis, of the rabbits that did receive serum was 103.2 degrees, and the average weight was 1260 g.; after inoculation with tuberculosis and after receiving antitoxic serum the average temperature was 103.2 degrees and the weight 1675 g. Thus, as the culture inoculated was innocuous, the conclusion is that the

antitoxic serum had no effect on the temperature while it apparently stimulated nutrition as the animals receiving it had markedly increased in weight, and in truth appeared in fine condition. Finally, as the experiment had to be concluded rather hastily, six guinea-pigs were taken, their normal temperature ascertained, and they were grouped in pairs as before according to weight. Two were inoculated in the left leg with a standardized emulsion of relatively mild bacilli, (1c.c.) and the remaining four intra-peritoneally with the same amount. One member of each pair was given one c.c. of antitoxic serum subcutaneously every second day. Numbers III and VI, inoculated in the leg, died on the second day of the experiment, and presented no evidences of tuberculosis. Number IV died on the ninth day and its mate was killed on the eleventh. Numbers I and V were killed on the fourteenth day.

The general conclusion, based on this experiment, was that the antitoxic serum had a distinct effect on the development of the tuberculous process, inasmuch as in those animals that had received the serum the lesions were noticeably less than in the others. This was well exemplified in pigs I and V. In No. I the spleen contained a few minute tubercles as did also the omentum, while in No. V the spleen was much enlarged and apparently filled with tubercles, the liver contained a few definite tubercles, and the great omentum was greatly thickened and converted into a gelatinous firm mass.

With regard to the two rabbits inoculated into the anterior chamber of the eye, in one the disease progressed so rapidly, apparently from secondary infection, that accurate conclusion could not be drawn. The other proved quite satisfactory, however, and the progress of the disease could easily be watched. For about two weeks the disease advanced so that the small caseous mass at first resulting had become enlarged to twice its size. With this there was considerable swelling and injection of the iris with exudation and marked conjunctivitis. Then one c.c. of serum was given every third day. After this, the signs of the acute iritis and conjunctivitis subsided, and during the three weeks following the animal was kept under observation, while the disease undoubtedly progressed, and subsidiary tubercles formed, the process appeared to be quite slow and somewhat indolent.

In the case of the guinea-pigs it was found that the injection of the antitoxic serum had no modifying influence on the temperature. From the autopsy findings it would look as if the use of the antitoxic serum had a notable amount of restraining influence upon the dissemination and development of the tuberculous process. It is equally certain that

it was not powerful enough to neutralize the infection and prevent its extension. I would hesitate to draw these conclusions from such a small series of animals were it not from the fact that the results are in perfect accord with those of work previously done on analogous lines.

After a careful consideration of the various researches previously referrred to, it must, I think, be admitted that it is possible to prepare a serum that is to a certain extent antitoxic towards tuberculosis. This, however, is clearly not enough. The evidence forthcoming that the sera hitherto prepared are curative is to my mind unconvincing. We apparently have to recognize that a serum may possess two qualities; it may be antitoxic merely, or it may be germicidal. In the case of tuberculosis we seem to need both qualities. Studies on the germicidal properties of the various sera produced have been few. Maffucci and Di Vestea have found that their serum when added to tubercle bacilli in the proportion of four to one produced some attenuation. So many outside factors may result in attenuation, however, that careful observations are needed to clear up this point. It is possible, as Ehrlich suggests, that better results may be obtained if we use as antitoxin-producers animals that are more nearly akin to the human being, such as to the ape. In view of the fact that tuberculosis is so essentially a chronic disease, even granting that an antitoxic serum is efficacious the amount necessary to counteract the tuberculotoxin would be enormous, for so far as we know yet the various antitoxic sera do not stimulate the body cells to produce antitoxin. Short of killing the germs in situ, I do not think it likely that we shall achieve success. By the use of attenuated germs it has recently been found possible to immunize animals susceptible to tuberculosis, but Koch, Trudeau and Baldwin, and others, agree that the blood of such animals does not notably gain in antitoxic properties. It seems to me that the question of diathesis, that is to say, the question of deficient cellular resisting power, is of relatively much greater importance in tuberculosis than it is in diphtheria and the other acute infections, Our endeavors must be directed towards conferring on the cells of the body those properties which they lack. How this is to be done is still as much a puzzle as ever.

At the present moment much attention is directed towards the doings of the Japanese. They are a small people, but are capable of great feats of strength and endurance. They live on a very frugal diet, and attribute much of their health and strength to the free external and internal use of water, and their system of gymnastics. They drink tea and beer in moderation, are very fond of the fresh air, and, use but little tobacco.

THE ETIOLOGY, DIAGNOSIS AND MEDICAL TREATMENT OF GALL STONES.*

By W. P. CAVEN, M.B.

ALTHOUGH on the program to-night, I am "set down" to discuss the diagnosis and medical treatment of gall stones, I feel that this necessitates first a statement as to what we know about the origin of gallstones.

For a long time Galen's explanation was the accepted one, that certain conditions increased the temperature of the liver and that in consequence coagulation of the bile occurred thus forming the stone. Paracelsus taught that disturbances of digestion produced an acidity of the blood; the acids formed acting on the bile, thus permitting of the precipitation of cholesterin and bilerubin, and stones were formed. Mickel von Hemsbach believed that chronic catarrhs of the mucous membranes of the gall-bladder and bile passages caused the formation of the stones; and to-day we are still of the same opinion, that on account of the mucous membranes of the gall-bladder and bile ducts being diseased there is increased formation of cholesterin and calcium; but we also go a step further and offer a reason why these mucous membranes should become inflammed. Pathologists tell us that a variety of micro-organisms are capable of infecting and inducing a subacute inflammation of the mucous membranes of the bile ducts and gall-bladder. The micro-organisms most frequently found are members of the colon group and bacillus typhosus. It is difficult to explain why at one time these organisms set up a chronic catarrhal affection with formation of stone, and at another time cause an acute cholecystitis and angio-cholitis with, perhaps, abscess formation, a difference in degree of virulence has been suggested. Does clinical evidence bear out the pathologist in showing this connection between typhoid fever and cholelithiasis? I am persuaded that it does. For some time past, I have been careful to investigate this point in the cases I have seen, and have been struck by the large number of cases giving a history of a previous attack of typhoid fever. Looking over my clinical notes, I find complete histories of 13 cases since paying attention to this point. Out of this number six gave such a history. It is also of interest to note how soon after an attack of typhoid may we find symptoms of gall stones.

Of my own cases one, Miss. L. aet. 35, had her first attack of biliary colic, (pain, jaundice, etc,) one week after getting out of bed

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from her fever. Since then there have been recurring attacks of the same nature, sudden onset of pain in region of gall-bladder extending through to back, with jaundice coming on in a few hours; the clinical evidence here I think is sufficient to diagnose gall stones, although I have as yet not obtained a stone.

Miss H. aet. 27, had typhoid in the spring of 1903, and the stone was removed by the surgeon, Dr. Bruce, in the fall of the same year.

Mrs. F. aet. 44, had typhoid at New Years, and the following July had her first attack of biliary colic.

In addition to the infection of the biliary ducts and gall-bladder by various micro-organisms, we also recognize the part that obstruction to the free outflow of bile into the duodenum plays; this in part explains the relationship between cholelithiasis and chronic constipation, frequent pregnancies and abdominal tumors.

Cases have also been reported where a foreign body has formed the nucleus of the gall stones, and no doubt has been the cause of its formation. (Needles, round worm, liver fluke.) Mignot has, however, shown that the presence of a foreign body in the gall-bladder, so long as the gall-bladder remains in an aseptic condition, does not cause a deposit of cholesterin, an infection being necessary as well.

Other indirect causes bearing on the predisposition to gall stones are:—

1. Sex.
2. Heredity.
3. Age.

Sex. Cholelithiasis is more common in females than in males, the proportion being, according to those who have had large opportunities of judging, two females to one male.

Heredity. Dr. Kraus, of Carlsbad, states that gall stones very frequently occur as a family complaint; in sixty-two per cent. of his cases he regarded it as such. Hoppe Seyler says the role of heredity is extremely doubtful.

Age. Cholelithiasis is most apt to occur in men between the fortieth and sixtieth years, and in women between the thirtieth and fiftieth; children and young adults are rarely the subjects of gall stones.

Symptoms and Diagnosis of Gallstones.

Are there any prodromal symptoms indicating that gall stones are going to form? Symptoms indicating a catarrhal condition of the gastric and intestinal mucous membranes we may probably regard as such, viz., constipation, flatulence, furred tongue, pale and yellowish skin, con-

junctiva slightly yellow, urine scanty and urates in abundance ; all of which symptoms usually clear up for the time being with a dose of calomel and salts.

In the great majority of cases of stones in the gall-bladder or bile passages, no symptons are present, and they are only found post mortem; but when the stone attempts to pass from one part of the bile passage into another in which the lumen of the canal is smaller, marked symptoms will appear. In the cases where the gall stones are quiet and do not move, the patient frequently complains of a sensation of weight and dragging in the hypochondriac region ; change of position of the patient, changes the location of the sensation. The appetite is capricious, attacks of migraine, nausea and vomiting may occur, and altogether the patient is considered to have a "weak stomach." A physical examination in such a case may reveal an enlarged gall-bladder, and also some enlargement of the liver itself can be made out. An alternate increase and diminution in size of the gall-bladder following the increased or decreased secretion of bile is also of diagnostic significance. As soon as the stones begin to move, we have usually a train of well marked and severe symptoms constituting an attack of hepatic or gall-stone colic. Such symptoms, however, are not seen in every case, as the finding of a stone in the stools may be the first intimation that the person is the subject of gall stones, the size of the stone or the condition of the passages being such as to permit of its travelling along without setting up any irritation. The attack of gall-stone colic is ushered in with violent pain ; as a rule this is of sudden onset, but sometimes it comes on gradually, some time elapsing before it becomes severe and localized in the liver region. The pain as a rule begins in the pit of the stomach ; it then spreads to the liver region and radiates over the right half of the thorax and often concentrates over the lower part of the right scapula, and it is said, that if the stone becomes impacted in the common duct, the pain is marked at the lower part of the back of the thorax, close to the vertebral column. The fact that the paroxysm of pain may come on after physical exercise or after eating a hearty meal, or following emotional disturbances, as sorrow or fright or anger, must be borne in mind from a diagnostic standpoint. Physical exercise by succussion may start the stone on its journey ; the increased flow of bile after a meal increases the vis a tergo thus determining an attack. Emotional disturbances no doubt influence the peristaltic action of the bile passage the same as the stomach or intestines. A feeling of sickness or nausea usually accompanies the pain, and this becomes intensified until vomiting takes place ; the vomited matters are first the contents of the

stomach and then bile stained mucous. The pain often ceases after the vomiting, and this gives rise to the impression the whole trouble is of gastric origin ; but, provided the stone has not passed, another paroxysm soon comes on. If the attack is severe and of long duration, the patient exhibits signs of collapse, the skin becomes clammy, he is chilly, pulse is slow and respirations are labored. During the attack or shortly after, the temperature may rise to 103° F. or higher, and be accompanied with a rigor of short duration ; this is probably caused by absorption of septic micro-organisms or their chemical products into the blood stream, and could be compared to what we used to designate "urethral fever" after the passage of a catheter. The attack of colic usually terminates suddenly, the stone getting into a wider channel, all symptoms abruptly end, and the patient is transferred from a condition of torture into one of delight. After an attack, the stools of the patient should be examined, the finding of the calculus of course clinching the diagnosis. The best method of searching for these is to use a wire sieve the meshes of which are about one-twelfth of an inch square, and pass the excreta diluted in a weak solution of carbolic acid through this.

I have as yet not mentioned jaundice as a symptom of gall stones ; but if a calculus becomes impacted in the common bile duct and the obstruction is complete or almost complete, jaundice develops; the discoloration of the skin lasts for several days after the calculus has escaped. If the calculus remains impacted the jaundice may last for a long time. I have notes of one case where the jaundice came on with an attack of colic, in February, 1896, and persisted, becoming very intense, until June of 1898 when the surgeon, Dr. J. F. W. Ross, removed the stone from the common duct, the patient, a man sixty-eight years of age, making a complete recovery. If the calculus becomes impacted in the cystic duct jaundice does not usually occur, there being no interference with the course of the bile to the duodenum, unless there be sufficient pressure exerted on the common duct from without, the same as might be occasioned by a tumor.

I have been struck by the great loss of weight and variations in weight to which one the subject of cholelithiasis is liable. I mention this more especially as a factor to be taken into account in differentiating gall stones from malignant disease. The patient to whom I referred a moment ago, as having had a stone impacted in the common duct so long, fell in weight in twelve months from 170 pounds to 110 pounds. Another case, a male aet. 56, in the spring of the year 1902 weighed 185 pounds; in July he fell to 130 pounds; in August, when I saw him first, he was 142 pounds. In January, 1903, he weighed 150 pounds,

the symptoms persisting. Dr. Bruce, the same month, operated and was able to shove the stone out of the common duct into the duodenum; the patient is now back to normal weight and perfectly well. Mrs. A., aet. 35, was the subject of gall-stone attacks from 1901; she would have spells of colic every week or ten days for two months at a time, during which time she would lose from 24 to 35 pounds in weight, picking it all up again when free from attacks for some months. She has had no attack now for about nine months, having passed three stones which we obtained with the sieve.

Just a word as to the result of physical examination of the abdomen in one who is suffering from cholelithiasis. When the gall-bladder is found to be enlarged, the swelling may be due either to a large collection of calculi in the gall-bladder or to an accumulation of fluid, which fluid may be bile, or it may be pus, owing to infection, or it may be a mixture of all three. A calculus lodged in the common duct does not necessarily dilate the gall-bladder, inasmuch as the spiral valve arrangement in the interior of cystic duct seems to prevent the bile getting into the gall-bladder in some cases. When the cystic duct becomes plugged by a stone, the gall-bladder usually enlarges and dilates from the accumulation of mucus in its interior. The distended gall-bladder is smooth, rounded, larger below than above, moves with the respiration and can be moved laterally with the fingers; it extends downwards towards the umbilicus or along a line drawn from the ninth costal cartilage of the right side to a point one-third of the way from the pubic spine, to the anterior superior iliac spine of the same side. I have, however, seen a gall-bladder holding in the neighborhood of a pint of bile where the enlargement was almost entirely backwards, and could only be doubtfully made out by abdominal palpitation. In palpating such cases, it is well to have the patient sit up and bend the body slightly forward.

Gall stones cannot be demonstrated by Röntgen rays as they are permeable to these rays on account of the cholesterin and large amount of organic matter which they always contain. A patient being seen for the first time in an attack of gall-stone colic, the diagnosis involves a differentiation from renal colic, intestinal colic as seen in lead poisoning, gastric ulcer, hyperchlorhydria with gastralgia, displaced right kidney with twisting of ureter. A renal colic could only be confounded with hepatic colic when the calculus is passing along the right ureter or is in the right pelvis. The pain, however in renal colic radiates down along the loin into the pelvis or thigh, and is associated with bladder symptoms and pathological conditions of the urine (blood etc.) In lead poisoning colic we have the history of

exposure, very marked constipation, the blue line on the gums. The pain of a gastric ulcer bears a definite relationship to the taking in of food, being thereby much intensified; the pain is immediately relieved by vomiting, and blood can usually be found in the vomited matter; the seat of the pain in gastric ulcer is usually in the centre or to the left side of the abdomen. The gastralgia of hyperchlorhydria is removed by large doses of alkalies or by washing out the stomach. A right floating kidney may give rise to acute pain in a case where the ureter becomes twisted; usually here the kidney is palpable, its shape and position negativing dilated gall-bladder; with this condition we have as a rule bladder symptoms and changes in the urine.

In certain cases, the symptoms of which show undoubted involvement of the gall bladder, we are in doubt as to whether or not we have malignant disease of the gall-bladder, head of the pancreas or neighboring structure. When persistent jaundice is present and not associated with recurrent attacks of periodic pain, nor with rises of temperature, but with progressive and rapid loss of weight, the evidence is in favor of malignant disease.

As to Treatment.

I say nothing about the management of the patient during the attack of colic. Can we do anything to prevent the formation of gall stones in one who is showing prodromal symptoms? From what has been already said as to the mode of origin of gall stones you will conclude we can.

1. By taking steps to prevent any obstruction to the free flow of bile into the intestines, and,

2. By avoiding, if possible, any infection of the bile passages.

To accomplish the first of these objects see that your patient is properly dressed—no tight bands or corsets; the weight of the clothing should be suspended from the shoulders. Physical exercises are also to be enjoined; walking, horseback exercise, bicycling, rowing and swimming may be mentioned as being specially useful. To avoid infection, constipation must not be allowed to exist, as this is a factor in bringing about a catarrhal state. Epsom and Glauber's Salts are probably the best laxatives under the circumstances. Food should not be taken at too long intervals. Frerichs draws attention to this, for under these conditions the bile is retained too long in the bile passages. A diet that contains too much fatty food and has too much sameness about it, ought to be avoided, as this predisposes to catarrh of the stomach and intestines.

The most suitable diet is a mixed one containing plenty of proteid, not too scanty, so that abundant quantity of bile acids is produced, and so that the flow of bile may be stimulated. Abundance of fluid should be taken, for while water in excess does not stimulate the flow of bile, too little water causes thickening of the bile.

Having diagnosed the presence of gall stones, can we hope to bring these away by medicinal means? Only if the stone is small enough in calibre to pass through the ducts. I think, with our present knowledge, we must confess to having no remedy by which we can hope to bring about a solution of the stones within the bile passages. Olive oil and almond oil were at one time, and even yet are, advocated with this object in view; it is claimed as well that the oil has a cholagogue action. This is, however, not correct. I have given the oil treatment a fair trial on a number of cases, but have had no success with it. Durande's remedy, which consists of three parts of ether and two of turpentine, was claimed to be a solvent, especially as the ether and turpentine were found to be excreted in part by the bile; but the quantities so excreted are so small that they could not possibly exert any action on the stones. Chloroform and glycerine have been recommended, but I think must be regarded as useless. A course of alkaline saline mineral waters, such as Carlsbad or Vichy, undoubtedly brings about the expulsion of gall stones in many cases. The water of Carlsbad is both purgative and cholagogue, and this tends to relax the walls of the bile ducts and at the same time increase the flow of bile. No doubt the successful management of these cases, at such places as Carlsbad, is largely contributed to by reason of the attention given to the diet and exercises (factors in reducing catarrhal conditions and in promoting flow of bile). The Carlsbad physicians recommend the taking of two tumblerfuls of Carlsbad water in the morning before breakfast, at intervals of fifteen minutes, warmed to a temperature of 150° F., and one in the evening at bed time taken cold. This treatment can, of course, be carried out anywhere, provided the patient will lend himself to it, and it is this method of treatment that has given me the best results. The Carlsbad water can be obtained here, or the Carlsbad salts may be used. In using the salts I have found it necessary usually to have the patient take a heaping teaspoonful in a tumblerful of warm water in the morning and again at night, in order to bring about the desired effect on the bowels. In addition to this I would, of course, enforce the directions as to exercise and diet. Carlsbad salts as you know consists of sodium sulphate, sodium bicarbonate and sodium chloride. I do not know that the natural salts have any advantage over those artificially prepared.

In conclusion, I would say with Waring: "(*a*) The presence of a tumour in the abdomen, which appears to be an abnormally distended and large gall-bladder; (*b*) the existence of jaundice which is persistent, together with other signs and symptoms which point to complete obstruction of the common bile duct or the common hepatic duct; (*c*) the occurrence of successive paroxysmal attacks of biliary colic, with short intervals between the individual attacks, which are lowering the general health of the patient, inducing a state of general exhaustion, and are not amenable to medical measures; (*d*) symptoms of localised inflammation in the region of the gall-bladder, which are associated with the occurrence of attacks of biliary colic; (*e*) the occurrence of acute peritonitis, would determine me to call in a surgeon."

RELATIVE PREVALENCE OF CONTAGIOUS DISEASES IN CHILDREN OF SCHOOL AGE.*

By P. H. BRYCE, M.A., M.D.,
Inspector of Immigration for Canada, and lately Secretary to the Ontario Board of Health.

TO everyone, but especially to those interested in the care of the children of our Public Schools, the subject of this paper becomes of extreme importance.

We naturally are all interested in the question of the prevention of contagious diseases amongst children at all ages, and in the measures by which such prevention may be accomplished; and it is natural to enquire how far schools are an aid or hindrance to such prevention. In one sense, our schools are both an aid to the dissemination and a means of preventing the spread of contagious diseases. They do aid in the dissemination of disease in the same way that infection spreads amongst crowds everywhere; but they are a means of prevention through the educational influences which spread often from the children to parents in these days of general compulsory school attendance and instruction in hygiene. Not until the organization of the Department of Health, under the Local Government Board in England, was there any systematized study of the causative influences in the spread of infectious diseases; but since the appointment of Dr. John Simon, its first medical officer, investigations have been pushed in every direction. This is illustrated in the following quotation from Dr. Clifford Allbutt's System of Medicine:—

"The influence of school attendance on the diffusion of diphtheria was noted almost as soon as skilled enquiry into the circumstances of

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* Read at the Conference on School Hygiene, Toronto.

the disease was instituted. This was pointed out by Mr.W. H. Power in 1876, and in the following year I had an opportunity of studying the matter during a maintained prevalence of diphtheria at Coggeshall, in Essex. It was found practical to divide the 928 children in the village into age groups, and then to ascertain within each group the relative amount of diphtheria in those who attended school and in those who did not. Under three years of age school attendance was not found to have materially influenced the number of attacks; but in the age period, three to twelve years, the incidence of the disease was not far from 50 per cent. greater on school attendants than on others; and in the age period, twelve to fifteen years, the school attendants suffered nearly three times more than those who were not at school."

A similar result in the instance of scarlet fever is illustrated in the annual report of Dr. Murphy, Medical Officer of Health, of London, England, for 1893, in connection with 17,704 cases. Of these there were :—

5,279 cases under 5 years of age.
6,727 " 10 " "
3,187 " 15 " "

Or but 29 per cent. of the cases were under five years of age.

Dr. Murphy illustrated the fact in another way by showing how the prevalence of this disease declined with the summer vacation. Thus :—

Under 3 years the decrease was 1 per cent.
" 3 to 12 " " 26 "
Over 13 " " 13 "

Increase in succeeding month :—

Under 3 years the increase was 4 per cent.
" 3 to 13 " " 65 "
Over 13 " " 26 "

Such is the experience of officers of health in England, but we are able to further illustrate the prevalence of infectious diseases from our own statistics.

During the first half of 1897 we had a serious prevalence of scarlet fever in Toronto. There were in all 1,138 cases and 63 deaths.

In the returns for May, and up to the 5th of the following June, there were in all 280 cases. Of these 198 attended school, or 70 per cent. of the whole were school children.

Such are the statistics of several outbreaks in which the details regarding cases have been available. We have, however, in addition to this, always available, the study of the death returns from year to year for the whole Province and for particular municipalities.

The following table, from the Registrar-General's Report of 1900, supplies a number of interesting details, by which comparative results may be obtained. It gives the population of the Province by age periods from 0 to 19 years inclusive, by years for the first five-year period and for the three succeeding quinquennia. It further gives the deaths for each of the several periods separately for scarlatina and for diphtheria.

Table showing, for 1900, population by age periods. Percentage of population in each age period. Total deaths by age periods. Deaths by age periods from scarlet fever and diphtheria.

	Year.	1 to 4 years.				0-4	5-9	10-11	14-19	5-19
Age period.....	0-1									
Population.....	49,500	190,347				239,847	246,610	243,277	232,073	....
Population percentage.....	5%	19.9%				24.9%	25.8%	25.29%	24.13%	....
Total Deaths.....	7,163	1,989				9,152	803	563	923	1789
		1	2	3	4					
Total deaths from scarlatina.	18	20	30	17	24	109	39	10	3	52
Total deaths from diphtheria..	77	61	94	90	85	407	205	66	29	300

From the columns of totals we find that for the first quinquennia, the deaths for both diseases together were 516, and for the period of 5-20 the legal school period, they were 352, and in the 5-9 period, separately, 244.

It will be observed that the ratio of deaths in the first five years of life is about three times that in the second five-year period for scarlatina, and twice that for the same period in the case of diphtheria. We see in this an apparent disagreement from the foregoing statistics regarding the cases as reported in the different illustrated statistics given.

There is, however, a natural explanation for this in the fact that the percentage mortality of scarlatina, in England, in 14,000 cases between 1888 to 1893 under five years was 16.8 per cent., while that for the five to nine year period was 5.6 per cent.

In the same way diphtheria which, between 1895 and 1899, had 25.6 per cent. of deaths to cases of children under 5 years, had 14.6 per cent. of deaths for the five to nine period. Or there were 1,536 as compared with 695. What is very pleasing to notice, however, in this study of English statistics is the relatively great decrease in recent years not only of the total cases and total mortality; but also of the lessening percentage in school children, due doubtless to the closer inspection of school children and the very general removal of first cases to the isolation hospitals.

To conclude this reference to the relative prevalence in the two periods through illustrative statistics, I shall take the returns of our two largest cities, Toronto and Ottawa for 1903. Except for the first three months of the year, the following are the number of cases as well as deaths, for the year 1903. We find that for the ten months from March to December, Toronto had 418 cases of scarlet fever and 62 deaths, and 806 cases of diphtheria with 100 deaths. The deaths for the whole year by ages were seen in the following table.

Deaths by Age-Periods in Toronto in 1903, for Scarlet Fever and Diptheria.

—	0-1	1	2	3	4	5-9	10-14	15-19	20-24	25-29	40-44	Total.
Scarlet Fever....	4	7	12	14	7	32	10	2	2	2	1	92
Diphtheria.....	7	9	22	18	20	44	7	1	4	1	1 (2)	136
Scarlet Fever & Diphtheria....	....	....	3	1	....	3	1	.....	.....	.....	.....	8

Comparing cases with deaths as given, we find that the percentage death rate was 14.7 for scarlatina and that for diphtheria was 11.7. I have not the figures enabling us to determine the death-rate at different periods, but we may assume that the relative rates would be much the same as in other years and places.

We find for scarlet fever that in the 0-5 period the deaths were forty-four while those for the school period 5-19 were exactly the same. Applying the rates in the London report, this means that there were three times as many cases among children of school age as in those from 0-5 years.

For diphtheria it would appear that the record for children of school age is more favorable. Assuming that the London rates prevailed of two to one for the two periods, we find the prevalence in the schools to have a ratio only fifty per cent. greater than that for the 0-5 year period.

The following table illustrates the relative prevalence of cases in the city of Ottawa :—

—	Under 5.					5-9	10-14	15-19	20-24	Total.
	0-1	1	2	3	4					
Scarlet Fever.....	....	....	1	1	....	2	.....	1	.....	5
Diphtheria.....	....	3	4	6	6	3	5	2	1	30

From the figures here given for scarlet fever, we similarly conclude that the prevalence of cases amongst the school children was three times as great in the 5-9 period as in the 0-5 earlier period; but we find that in the matter of diphtheria there is by no means the same relation, there being twenty-two deaths in the 0-5 year period and but five in the 5-9 period.

These figures are of extreme interest since they represent the results of a year's work, where for nine months all cases of diphtheria were removed to the Isolation Hospital so soon as diagnosed and the school children of the rooms where cases had been were inspected till the period of incubation was over. The very considerable number of cases which occurred during the year (320 of scarlatina and 351 of diphtheria) removes the element of incorrect deductions which may result from a small number of cases.

The history of these Ottawa figures as a statistical study is most interesting. For years the city had an unenviable reputation in the matter of contagious diseases. In 1902 there were in all 689 cases of scarlet fever and 234 of diphtheria. In February 1903, a new well-equipped Isolation Hospital was opened, and after March all cases of the diseases occurring in the city were sent to the hospital. Of the 320 of scarlet fever, 198 were treated in the new hospital during the eleven months, the balance 102 were treated elsewhere, or after the complete removal to hospital of all cases began, there were for the nine latter months of the year but 159 cases compared with 161 in the first three months.

Of the diphtheria cases, 251 cases, sixty-nine occurred in the first three months of the year and 182 in the latter nine months during which all cases were treated in the hospital. While not directly bearing on this subject, it is pleasing to remark that the total deaths for the nine months for scarlet fever were but three, while those for diphtheria were nine, or 1.52 per cent. and 4.9 per cent. of cases. Such a low record of deaths for so large number of cases has, so far as I know, never hitherto been obtained. But the other important point is, the effect of the removal to hositpals of first cases, in lessening the prevalance of the disease. In 1902 there were 689 cases of scarlet fever in Ottawa with thirty-nine deaths, and 487 cases of diphtheria. As a matter of fact, there has resulted from the more effective methods adopted in 1903, a reduction of over fifty per cent. in the cases of scarlatina and eighty-five per cent. of deaths, and forty-one per cent. in the cases of diphtheria and fifty-four per cent. of deaths.

But little more I think need be said on the subject, as the methods for dealing with infectious diseases in schools will be dealt with in another paper. To me, and I think to every one, must be apparent that practically there is no limit to the economic and life-saving results which public health work moving along the lines of experimental science is not capable of. What apparently is necessary is :—

1st. A conviction arrived at by such statistics as have been cited, that disease is disseminated in such ways as I have indicated.

2nd. That we be convinced by the results of such methods as have been especially illustrated by the Ottawa statistics, that an enormous saving of cases of disease and deaths is possible.

3rd. That we possess scientific methods so certain, when persistently and systematically carried out, that they will suppress outbreaks of epidemic disease almost with the same certainty as the demonstrated amount of work which a properly constructed machine will perform with the combustion of a definite weighed quantity of fuel. All that is further required is to educate the public that such work is life-saving and patriotic, and that like all other philanthropic work, the results are not only good to the receiver, but also to the giver. As Sir Lancefal, in his search for the " Holy Grail " came to realize :—

> "The Holy Supper is kept, indeed,
> In whatso we share with mother's need ;
> Not what we give, but what we share—
> For the gift without the giver is bare ;
> Who gives himself with his alms feeds three,—
> Himself his hungering neighbour and me."

A STUDY OF IMMUNITY IN VARIOLA AND VACCINIA.

By C. A. HODGETTS, M. D.
Secretary to the Ontario Board of Health, and formely Inspector for the Board.

THE prevailing opinion amongst medical men, generally, is that one attack of variola prevents either a subsequent attack of smallpox or the vaccine virus from successfully taking. As to how far this is correct, the subsequent remarks will endeaver to indicate.

For a proper understanding of the subject it must be considered from the standpoint of immunity, which may be defined as the power possessed by individuals to resist infection, and this power may be described as either natural or acquired, absolute or relative in the case of both diseases. How long natural immunity may continue absolute in an individual cannot be stated with certainty, but instances now and again are to be found where the resistance continues throughout an epidemic of variola where the exposure is either continued or repeated. A

marked example of the former was that of a child of 10 years, unvaccinated, who, during the outbreak which prevailed in Essex County in 1900, lived with the other members of the family, nine in number, all of whom suffered from the disease, and yet the little one remained an immune. In this family several cases were markedly discrete and one was semi-confluent and the members of the household mingled freely, the little girl eating and sleeping with the others during a period of some eleven weeks. She was, apparently, a case of natural immunity, for the girl had never acquired such by vaccination or an attack of variola at some previous date. I had not the opportunity of ascertaining the reistance she possessed to vaccine because the family would not permit of the operation being performed.

That natural immunity may be relative and not remain absolutely permanent throughout life may be supposed, although instances have not been recorded so far as I am aware, in regard to smallpox. The resistance to variolous infection may be changed or lessened by both instrinsic and extrinsic causes, as for instance by physical debility on the one hand or increased virulence of the disease on the other. That it is relative in one who has for years resisted the inoculation of the virus of vaccine there are however examples, and from this fact it is safe to reason that it is so in regard to those who have proved immune to one attack of smallpox. I have during the past few years witnessed the successful vaccination of some who for many years have resisted repeated attempts to vaccinate, the successful vaccination producing the typical reaction of that disease ; for I do not refer to that virus referred to by Dr. Welch in the following words—"There is, however, considerable virus in use which is sure to cause a sore arm even in immune persons." It must be remembered that the repeated failures may have been due to some fault either in the performing of the operation or in the efficacy of the virus itself, and it may be argued that the results witnessed were due to the operation, first time being accompanied with the introduction of 'good virus". But the claim that these cases are examples of relative immunity is inhanced by the fact that on the occasions when the vaccination had been previously performed with negative results, others had been successfuly vaccinated by the same vaccine either human or bovine.

To most persons, the immunity possessed against variola is acquired either (*a*) through an attack of the disease, (*b*) by inoculation, or (*c*) successful vaccination, and for some few the immunity thus derived may be considered as absolute, while to the majority, however. it is but

relative, although [1] "formerly protection by all these ways was considered complete and permanent."

As early as the year 1829, the practice of re-vaccinatinating the troops was commenced in Wurtemburg, and the collective results recorded for a period of five years, 1831-35, during which time 13,781 men, chiefly of the group age 20-30 years, were re-vaccinated. Of this number, 266 bore marks of previous smallpox, and the results of the vaccination in this group, as regards re-action, were perfect in 31.05, modified in 24.81, and none in 42.23 per 100.

Later, [2] in 1839, Dr. Theile observed in the vaccination of the Russian soldiers at Kasan, that there happened to be vaccinated 1,436 persons presenting marks of previous smallpox, and that perfect vesicles would arise just as often in these persons as in those who had once been vaccinated. The summary of his report is as follows:—

Presenting marks of variola.....	1,436.	Perfect success....	18.87%
" " " vaccination..	247.	" "	18. 6%

Of the more recent writers on the subject, [3] Mr. Marson's observations further established the fact that the degree of modifying power for immunity is in the exact ratio to the excellence and completeness of the vaccination, as shown by the cicatrices. His observations continued over thirty years and extended to 15,000 cases, and the following extract is given in the table:—

Vaccinated.	Mortality rate per cent.
a. Having one vaccine cicatrix	6.80
b. " two " cicatrices.....	4.70
c. " three " "	1.95
d. " four or more "	0.55
e. " well marked "	2.52
f. " badly marked "	8.82
g. " no cicatrix	23.57
Having previously had smallpox	19.50
While the death rate in the unvaccinated was.....	35.00

A study of these interesting figures emphasizes the fact that while the general mortality from the disease amongst the unvaccinated was 35 per cent, and amongst those who previously had the disease 19 per cent, as compared to 23.57 per cent in those unsuccessfully vaccinated, yet the immunity imparted by vaccination was relative as shown in the

[1] McVail in Stevenson & Murphy, Treatise on Hygine, Vol. II.

[2] Sir H. Seman's Reports.

[3] Reference Handbook of the Medical Sciences, Vol. VII., pg. 529.

groups "*a*, *b*, *c* and *d*," as also in groups '*f*' and '*g*' and possibly some immunity might be claimed for those who had been vaccinated, though there existed no evidence of it. Two facts are however established; first, that the immunity imparted by an attack of variola is relative and not always absolute; second, that there are varying degrees of relative immunity of the vaccine virus, though whether the number of marks or cicatrices are the only factor to be counted on rather than the amount of virus used as evidenced by the area of these cicatrices and the period elapsing between the vaccination and the attack of the disease is not plain.

Sternberg,[4] in 1895, stated, "The fact that a single attack of smallpox is not always protective, would lead us to expect that the immunity from vaccination would not be absolute, and experience shows that in every smallpox epidemic a certain number of persons who have been vaccinated. fall victims to the disease."

This clearly indicates that he is of the opinion that the immunity in each case is only relative.

In 1871, Mr. Robert Bath,[5] Staff Assistant Surgeon, in Medical Charge of the Depot of Foot Guards, pointed out the fact that the British Army Medical Authorities recognized that the immunity imparted by one attack of smallpox is not absolute for all recruits even if plainly marked with the disease were subject to vaccination. He says: "I find, therefore, that of these twenty-nine out of 797 recruits in 1870, in eight instances a perfect vesicle resulted from vaccination; seven were returned as modified; and fourteen, or less than half, as failures. These results," he says, "may, to some, appear surprising; they seem, however, to indicate that the immunity conferred by an attack of the disease is not absolute, but relative." The editor of the *Lancet*, in the same number, in commenting upon the subject, says in part as follows: "By an extraordinary omission in the circulars of the Privy Council and College of Physicians, no recommendation is given for the vaccination of persons who have had smallpox. Several cases have come within our knowledge in which very fine vesicles have been produced in persons who have had smallpox; and it is well known that it is not infrequently fatal in the second attack; indeed, a case was mentioned only last week in our report on vaccination, and another has since been reported to us. Experience shows us that vaccination and re-vaccination together confer even greater safety than an attack of smallpox, and it therefore follows that vaccination should be strongly recommended under such circumstances."

[4] Immunity and Serum—therapy, Sternberg, page 230.

[5] The *Lancet*, February 11th, 1871.

As further pointing to the relative immunity imparted by variola and vaccinia, the three following interesting cases are submitted—the first two by the well known medical authorities Allbutt[6] and Brouardel, and the third being a letter received by the writer from Dr. Round, of Plymouth, England.

The first is as follows:—

1858. A. B. born———. Mother developed smallpox when infant was three months old, and child had it in a mild form.

[5]The Lancet, February 11, 1871.

[6]Allbutt's System of Medicine, Vol. II.

1858. When three months old successfully vaccinated, 3 scars.

1881. Successfully vaccinated, 2 scars.

1883. Mild attack of smallpox.

1892. September, successfully vaccinated, two scars. November, unsuccessfully vaccinated.

1893. Unsuccessfully vaccinated.

1896. Very mild attack of smallpox, but indubitable, T.C.A.

The second is recorded by Brouardel [7]. "The immunity conferred by variola against a second attack is also subject to the same variations. In 1868 I saw a lady at Passy who was suffering from confluent variola, being then 32 years of age; in 1871, after the the siege of Paris, she had an attack of discrete variola; in 1873, having occasion to vaccinate her niece, I performed the operation on her and was surprised to find that it took perfectly Thereafter I vaccinated this lady six times at intervals of six months, in the presence of Dr. Lorain, and each time vaccinal eruption appeared with absolute regularity. In 1876 the lady left Paris and I have not seen her since."

The third is the letter which reads as follows:—

57 Ebrington St, Plymouth, Sept. 17, '03.

Dear Sir,—

It may perhaps interest you to hear of my own case.

In 1893 I was vaccinated in the April, whilst in the December of the same year I had an attack of discrete variola.

In 1897 I accidentally pricked my hand with a charged vaccine lancet with the result that I was again successfully vaccinated on the back of my right hand.

In 1903, I had a rather strange experience. I felt ill one day, but went on with my work. Three days later I felt a few spots on my back and had a few elsewhere. At first I thought they were boils coming, so I went on with my work; but I felt so bad that on my way home from

[6]Allbutt's System of Medicine, Vol. II.

[7] 20th Century Practice of Medicine, vol. xiii.

a confinement, I called at the house of a medical friend who told me that I had variola. I stopped work at once and wondered what would happen to the confinement patient; however, she did well and never knew that her doctor had attended her while suffering from smallpox.

I wonder if any other man has ever attended a confinement whilst suffering from variola and without the patient taking any harm.

Yours very truly,

(Signed) JNO. ROUND.

In addition to the foregoing, the history of three cases which have occurred during the past two years in the Province are reported :—

1st. Mrs. "V.," unvaccinated, Dec. 9th, 1901, was attacked with smallpox, discrete in character. Dec. 11th, 1902, was vaccinated in two places with vaccine from different sources. Both took and on Jan 2nd. one scab was still adherent. That the case was smallpox there can be no doubt, as six other cases were directly traceable to having been infected by Mrs. "V".

2nd. Being called in consulation to "B" in 1902, to see a child ill with varioloid, it was found that the nurse, Miss R., unvaccinated, presented evidence of being in the third week of variola, some of the scabs being in evidence. She was, together with the child, forthwith moved to the isolation hospital. Instead of being cleaned up and discharged, she was detained in the hospital and assisted to nurse the other female patients, one of whom was a semi-confluent case. Within three weeks after admission she was, for the second time, attacked with the disease, varioloid on this occasion. The aborting of the eruption at the various stages was marked, and the patient left the hospital within two weeks from the onset of the second attack, presenting the characteristic marks of both attacks.

3rd. During the epidemic in Ottawa, in 1903, a young woman, unvaccinated, was admitted suffering from a discrete attack of the disease. After recovering, some five weeks later, she was engaged as an assistant in the wards ; and, six weeks after beginning the duties, she was stricken with the second attack, discrete in character, and typical in every respect. I saw her previous to her recovery from this attack and there were present at that time distinct evidences of the first attack.

The two cases of smallpox with second attacks at short intervals are examples of relative immunity and would indicate that the mild form of the disease, which has been so prevalent in the province for the past few years, possesses but slight powers of immunity when the person is brought in contact with the variola in its more virulent form ; and

this fact is further shown in the case where the woman was vaccinated successfully within twelve months of her attack of smallpox, for here the immunity, which one would look for in one who had suffered from "variola discreta", was not to be found present within the year.

In further considering the question, it becomes evident that the relative degree of immunity imparted by smallpox in the past has been that resulting from the disease in a type infinitely more severe than that which affected the three above cases just referred to. In the case of those reported by Dr. Marson, the mortality amongst the unvaccinated was 35 per cent. and the lowest was 0.55 per cent. which is about equal to that which has occurred in the epidemic that has recently visited us. How then can one speak as to the immunity which exists amongst the tens of thousands who have suffered from this extremely mild variola? It, is, I fear, in many instances, inferior to a successful vaccination, and the permittting of so many to remain unvaccinated after passing through an attack of mild variola, is to permit them and the general public to live in a fool's paradise.

THE SELECTION OF THE SPOUSE.

The fact that the offspring may be the heir to the morbid tendencies of the parents, makes it imperative that the greatest care should be exercised in the selection of a spouse, but one should not grow too wary and hypercritical. No generation ever existed which did not possess some abnormality, and a rational mode of life will tend to ameliorate certain untoward affections. The rule of the life insurance companies to inquire into the family history of the applicant would be a prudent course for those intending marriage to adopt. Even if the aspirant to marriage evinces no unhealthy symptoms, minute study of the physical condition of his immediate relatives might disclose the morbid tendency to which he or she is heir. Whenever anomalies and signs of degeneration repeatedly present themselves in preceding and present generations, thus proving the ascendency of such morbid affections, we may assume that subsequent generations will not be spared, and marital union with a member of such a family should be emphatically interdicted. Among the lower classes, and for that matter also among those of higher standing, the fact that "there is tuberculosis (or insanity) in the family" is perhaps the only deterrent to contemplated conjugal union, and here it is the graphic and obvious manifestation of the diseases which inspire the dread. Of the nature of the numerous others grave and disastrous affections the public in general is woefully ignorant. Unless the dangers that await them are imparted to them in an intelligible manner there can be little hope for the amelioration of present conditions.—*American Medicine*, 26th March, 1904.

CURRENT MEDICAL LITERATURE.

MEDICINE.

Under the charge of A. J. MacKenzie, B.A., M.B., Toronto.

THE TREATMENT OF FACIAL PARALYSIS BY NERVE ANASTOMOSIS.

In the *Annals of Surgery*, May, Cushing, of Baltimore, reports a case in which a total facial paralysis, resulting from traumatism, was cured by the anastomosis of the peripheral segment of the N. facialis to the central part of the N. accessorius, severed for this purpose.

The patient was a young man, 30 years of age ; the injury was due to a bullet-wound through the mastoid and petrous portions of the right temporal, with complete destruction of part of the facial nerve contained in the aqueduct of Fallopius. Motor paralysis of the muscles on the right side of the face, including the platysma, was complete, sense of taste was lost in the right side of the tongue, Bell's sign and the other classical manifestations of the condition were present.

Operation was deferred for six weeks to allow of complete healing of the wound and by this time there was marked deformity, occasioned by the drawing of the face to the left. An incision was made along the anterior border of the sterno-mastoid, and the N. accessorius isolated at the point where it enters the posterior of this muscle, about five cm. below the tip of the mastoid process ; it was found to consist of but one trunk. The facial was exposed by incising the posterior border of the parotid gland, and after isolation, was squarely divided as near as possible to the scar tissue occupying approximately the position of the stylo-mastoid foramen. The two nerves were brought together over the digastric muscle and sutured together at three points by means of fine curved intestinal needles, threaded with the finest split silk. Careful hemostasis was observed, and the wound healed well, leaving but little scar.

On the day after the operation, the patient was sure that some power of motion had returned to the eyelid—probably nothing more than the inhibitory action of the M. levator palpebrae superioris—also that he was no longer troubled with lacrymation and salivation. On the tenth day the patient returned home and was given a small galvanic battery with which he kept up repeated stimulation of the paralyzed muscles.

13 days. Noticeable lessening of asymmetry and disappearnace of contracture of muscles. And on attempted closure of the eyelid the lower edge of the iris is completely hidden.

81 days. Facial asymmetry at rest hardly noticeable and considerable voluntary motion of the orbicularis and slight voluntary twitch of the lower lip.

127 days. Considerable voluntary control over facial muscles, much exaggerated when the patient shrugs his shoulders, and elevation of the shoulder alone is impossible without producing a strong contraction of the facial muscles. The sterno-cleido-mastoid and trapezins are paralyzed and form the reaction of degeneration.

147 days. Very slight contraction of the occipito-frontalis seen.

168 days. Some co-ordination of expressional movement is present and dissociation of movements of eye, nose and mouth. Considerable freedom of facial movements without calling forth shoulder action, but reverse not the case, even elevation of arm causing general facial contraction. Electrical stimulation over the pes anserinus gives contractions.

207 days. Further improvement in separate and co-ordinated movements. Electrical stimulation shows the greatest improvement; stimulation of the main trunk at the point of anastomosis gives a quick and complete contraction and an indirect response to farradism noticed for the first time.

Similar operations have been performed, by Faure unsuccessfully, and by Kennedy successfully, both of these operators preserving a part or all of the accessorius, but the insignificant loss of function attendant on its complete severance and the difficulty of dissociating movements of shoulder and face if the connection remains, seem to justify the writer in its procedure. The important points in techinque are absolute hemostasis, great delicacy in handling and approximating the nerves, and avoidance of injury such as would increase the formation of scar tissue. The probable path of impulses is through the lower connections of the two nerves.

THE ETIOLOGY OF VARIOLA.

In the May number of *The Journal of Medical Research*, Councilman, Magrath and Brinckerhoff publish a preliminary report on their investigation into the etiology of variola. Various authorities have found peculiar inclusions in the epithelial cells in the lesions of this disease and different explanations of their nature have been made; these authors incline to the view that they are living organisms, but so far their life-

cycle has not been established nor has their existence as living organisms been proved.

In the lower layers of the skin, before there is any anatomical evidence of vesicle formation, there are found small, structureless bodies, from one to four microns in diameter which lie, one or more in number, in vacuoles in the cells. These bodies increase in size, and evidences of structure consisting of granules more distinctly stained and lying in definite spaces begin to appear, a reticulation structure is seen and evidence suggestive of an amaeboid structure. They increase in size, but no definite nucleus has been made out although the reticular structure stains more deeply than the rest. Segmentation now takes place, leading to the formation of small round bodies about one micron in diameter. This is evidently one phase in the life cycle of the organism.

At the period of segmentation, when most of the intra-cellular bodies have disappeared, small, round, or oval ring-like bodies appear in the nucleus, which increase in size and acquire a definite structure consisting of a series of vacuoles around a large central vacuole. As the bodies become larger the nuclear run becomes more indistinct and finally disappears and the body lies in a completely degenerated cell, or this breaking down sets free the body. With the growth and development of the intranuclear body, the vacuolar structure becomes less distinct and finally a structure is formed which contains numerous fine vacuoles. At this time small circular bodies begin to appear in it, and groups of these are surrounded by a faint ring having a central dot. The writers regard this intranuclear body as a further stage of development. It develops from the spore-like bodies produced by the segmentation of the intracellular bodies which pass into the nucleus, and these spores are regarded as the true infecting material of smallpox.

From inoculation experiments Dr. Tyzzer has been led to conclude that only the first or intracellular stage is found in animals and hence we may suppose that only this first is found in vaccinia, while in variola both are found, the entire process being concluded with the formation of the young vessicle. The spores are present in the contents of the vessicle and pustule, but their recognition is at present impossible.

TOXICITY OF TETRA-PHOSPHOROUS TRI-SULPHIDE.

The extreme toxicity of the metal phosphorous in the yellow form is well known, the lethal dose being given as 10 centigrams, although there are cases on record where a much less amount has proved fatal. The fact that the tetra-phosphorus tri-sulphide ($P_4 S_3$) is being largely used in the arts led Theyer and Wolf of Cornell to make an investiga-

tion of its toxicity and their results are reported in the *Journal of Medical Research*, May. Experiments were conducted upon dogs and rabbits and they conclude that the only effect of this compound is to act as a mild irritant, causing slight hyperaemia and some fatty degeneration when long used, but that no amount which any human being could take by accident or design would prove fatal.

VITALITY OF BACTERIA.

Weaver, of Chicago, reports an investigation into this subject in the *Journal of Medical Research* for May. The experiments were made with swabs from the tonsils and pharynx in ninety-five cases of clinical scarletina of varying severity and at periods varying from the first to the thirty-seventh day. Of one hundred and forty-five swabs taken, from eighty-seven streptococci were cultivated, while from fifty-eight they were not. The conclusions arrived at were as follows:—

(1) Streptococci are almost always if not constantly present in the throat in cases of scarletina. In the early stages they are usually in very large numbers, becoming less numerous as the disease progresses.

(2) The streptococci in the throats of scarletina patients resist drying as long as the other bacteria usually present, and they often outlive all other forms, being alive as long as ninety days after the material is collected.

(3) These streptococci remain alive a long time in milk.

(4) A small amount of sugar in nutrient media increases their value for the cultivation of streptococci.

(5) Streptococci from scarletinal anginas are not different from streptococci from other sources so far as cultural and morphological peculiarities are concerned.

MEDICAL EDUCATION IN THE UNITED STATES.

This is the subject of the address of President Billings of the American Medical Association delivered at the recent meeting in New Orleans. The increase in the number of Medical Schools in the United States is referred to: in 1877 there were 65, in 1882, 89 and in 1902, 156. The number of graduates has increased from 4,115 in 1882 to 5,002 in 1902. There is at present an average of one physician to 600 population of the United States and natural increase in population and death in the ranks would make room for about 3,000 graduates per year.

A number of the medical schools are proprietary, but every year makes it more difficult for such institutions to cope with the work of

providing such an education as the advance of science makes necessary; it is estimated that the proper education of a medical student with laboratory methods and proper equipment entails an annual cost of $600, so it is patent that none but such schools as have endowment or university connection can fulfil the requirements.

It is interesting to note that the writer suggests two plans for the improvement of medical education, both of which have been adopted here, viz., a national examining board whose examinations should qualify for practice in any State, thus ensuring a uniformly high standard; and a combined course in arts and medicine extending over 6 years, such as has been already established by the University of Toronto.

President Billings says the medical education of the future should be done by university colleges, thescientific training in the best equipped laboratories, the teachers in all subjects to devote themselves to that alone and spend their time in scientific research in university hospitals, although in the student's final year he should have instruction from clinical teachers in general practice. This would entail an endowment sufficient to establish the most thoroughly equipped laboratories, and most perfect hospitals and pay the professoriate salaries equal to what they could command in other walks of life.

THE ETIOLOGY OF CARCINOMA.

In the *B. M. J.*, Jan. 23rd 1904, there is a report by Monsarrat, of Liverpool, of researches undertaken on the etiology of carcinoma in connection with the Scientific Grants Committee of the *British Medical Journal*. He summarizes his report as follows:—

(1) From a considerable proportion (58.3 per cent.) of specimens of carcinoma mammae an organism presenting characteristic features was insolated.

(2) This organism presents a life history in which two cycles were traced—the one a vegetative budding cycle, the other asporulating cycle.

(3) The organism when injected into animals is capable of infecting and inhabiting epithelial and endothelial cells.

(4) The organism initiates in epithelium and endothelium a process of proliferation as a result of which, masses of new-formed tissue are built up, which consist of a parenclyma and a stroma, and grow and extend actively from their centres of origin.

(5) This new cell-mass formation may be associated with growth of a similar character in neighboring glands and some evidence was also provided that visceral metastasis also occurs.

(6) Intra-cellular bodies are demonstrable in carcinomata mammae which present the same features as the intracellular parasites of the experimentally-produced nodules.

(7) The evidence derived from these researches points to the conclusion that the organism described is an etiological factor in the morbid process known as carcinoma mammae.

CRIMINAL ABORTION.

In "*Colorada Medicine*" December, Dr. Love discusses the reasons for the increase in this crime and its effects, and the duty of the profession in regard to it. The causes suggested are :

1. Want of respect for human life.
2. Ignorance of true biological facts as to when life begins in the fœtus.
3. True degeneracy and criminality.
4. Industrial conditions rendering the possession of large families a greater hardship during this unavoidable period of our social evolution
5. An increasing tendency on the part of married people in large cities to live in a desultory, haphazard way, in boarding houses and tenements where incumbrances like children and dogs are not allowed
6. Materialism and its too frequent association with indifference and irreligion. These causes being still with us, we find :

That criminal abortion is at least not decreasing as it should in this age of apparently marvelous development.

That it is most prevalent in the social ranks where it can least afford to exist ; namely, in the middle and upper classes.

That the law has not been able so far to control or even decrease this crime. That the physical effects upon the mother are enormously prejudicial to health. That it is morally degrading to all parties concerned.

That from the standpoint of social economics, it is suicidal.

That from a legal standpoint it ignores the rights of the unborn.

The means to be adopted are suggested as follows:

First – Limit the production of moral degenerates.

a. By separating or sterilizing the feeble-minded and idiots, and those helplessly insane or epileptic.

b. Incarceration for life of male and female confirmed criminals.

Second—Disseminate positive knowledge on the following subjects relating to criminal abortion:

a. Its effects on society.

b. Its effects on the moral life of the parents.

c. On the physical life of the mother.

d. That individual life begins with conception.

e. The right of every unborn child to life.

f. The penalties prescribed by law.

Third—By encouraging greater love of home and family ties, through religious and ethical teachings.

Fourth—The elimination from the text of the law of the term "quick," which in its present sense is misleading; and finally, the framing of laws which will make convictions possible and thereby be not only punitive but deterrent.

SURGERY.

Under the Charge of H. A. Beatty, M.B., M.R.C.S., Eng.
Chief Surgeon Canadian Pacific Railway, Ontario Division ; Surgeon Toronto Western Hospital.

SURGERY OF HYDROCEPHALUS.

In the *Medical Forthnightly* January 25th, B. Merrill Ricketts presents an historical review of the surgery of hydrocephalus, and gives the following conclusions :—

1. Excessive secretion of the cerebral meninges may occur in any form of animal life.

2. The various forms of vegetable life are subject to excessive local or general secretion to a fatal degree.

3. Hydrocephalus (ventricular or meningeal) may develop in utero, or at any time throughout infant or adult life.

4. The number of cases of spontaneous recovery are probably numerous, especially in infant life when the arachnoid is alone involved.

5. All cavities may unite with or without external rupture. When so it is usually fatal.

6. Spontaneous rupture may occur externally or subcutaneously with an occasional recovery.

7. The effusion may be into the lateral, third, or fifth ventricle, or it may be in the arachnoid cavity, or in all.

8. A clot in the arachnoid cavity may cause a cyst, which will enlarge with all its consequences.

9. Syphilis and rickets have been assigned as causes of hydrocephalus, but have never been proven to be such. The causes are yet unknown.

10. Sometimes zones of new osseous material are seen scattered here and there in the meninges, and sometimes upon or in the brain substance.

11. The septum lucidum is invariably thickened, as are the cerebral meninges in general.

12. It is probable that the greater number of cases of hydrocephalus, whether of the third or fifth ventricle, or of the arachnoid variety, can be cured by some form of drainage.

13. Continuous drainage by seton, or the repeated use of trocar, has given the best results in the way of benefit or cure.

14. Spinal drainage has been practised to but a very limited degree, and its value is as yet undetermined.

15. Subcutaneous drainage has not as yet resulted in a cure, but there seems to be many possibilities for this method.

16. Trephining for drainage is only resorted to in cases where fontanelles have closed by bony union.

17. Results from drainage are more favorable if it is done when the presence of fluid is first detected.

18. It is sometimes necessary to drain both hemispheres, together with the right and left cerebellar cavity.

19. The secret of curing arachnoid hydrocephalus by drainage probably lies in obliterating the arachnoid cavity. However this can hardly be so with hydrocephalus of the third and fifth ventricles.

20. The cardinal principle in this as in all operations upon the brain is asepsis

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HERNIA IN YOUNG CHILDREN.

W. B. DeGarmo, in the *Medical Record*, February, discusses the above subject. The most freqnent cause of hernia in young children is the non-obliteration of the neck of the tunica vaginalis testis.

The hernia does not usually appear until after the child begins to walk. Constipation in early life and gaseous distension of the bowels tend to weaken the abdominal walls. Bronchitis, wooping-cough, crying and tight belly-bands also act as causes.

The forms of hernia occur in the following order of frequency; inguinal, umbilical, ventral and femoral.

Except in rare instances, hernia in children does not heal spontaneously.

Treatment should begin as soon as the hernia is discovered, by a properly adjusted truss. Unless unreducible strangulation occurs, surgical operation is not to be resorted to on children in arms.

Strangulation signs as arranged by Dowd in order of importance are tumor, vomiting, constipation, difficult urination, restlessness and apparent pain, and depression.

Ninety per cent. of cases under three years of age can be cured by proper care and mechanical means. After the seventh year, cure is rarely achieved by mechanical means.

Indications for operation are : 1. Strangulation. 2. Where the truss does not control the hermia. 3. Where the truss causes pain. 4. Herniæ where occasional protrusion with threatened strangulation occurs. 5. When the child cannot be properly watched. 6. Femoral herniæ. 7. Age above seven years.

GYNÆCOLOGY.

Under the charge of S. M. Hay, M.D., C.M.,
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THE ASSOCIATION OF DISEASES OF THE TUBE AND OVARY WITH APPENDICITIS.

In the February number of the *Cleveland Medical Journal* Dr. Robert H. Sunkle writes on the above subject as follows :—

In dealing with diseases of the tubes and ovaries the possibility of the existence of an associated appendicitis is becoming more and more recognized. Many times women are hurried off to hospitals for appendicitis when, at operation, the appendix is found to be perfectly normal, the symptoms of disease of the tube and ovary having been mistaken for those of appendicitis. Therefore, it is well to remember the possible association of the two conditions.

Legnen reported two cases in which extrauterine pregnancy was diagnosed by him as appendicitis. One patient was forty-eight years of age. In neither of these cases had there been any menstrual irregularity, uterine hemorrhage, or the usual general changes noted in pregnancy. Moreover, in both cases fever was present.

Downes reported two cases in which the appendix had been removed by a surgeon doing general work. In neither had the symptoms abated. Later on the right ovary, containing pus, was removed and a cure resulted in each case.

Lusk mentions a case of tubal pregnancy in a young girl that was diagnosed by an eminent surgeon as appendicitis. All who examined her thought they felt the thickened appendix. She gave no history of passing over a menstrual period. At operation, a tubal pregnancy was found.

Richelot mentions six cases of appendicitis in females, in which it was impossible to make a positive diagnosis before opening the abdomen.

The differential diagnosis between appendicitis and tubo-ovarian disease is ordinarily simple. In many cases it is next to impossible to differentiate between the two, more especially when the symptoms run

into one another s in the case above cited, or when a vaginal examination without anæsthesia does not reveal any pelvic trouble.

R. T. Morris says that a rigid abdomen is the principal differential sign between acute appendicitis and salpingitis.

In chronic attacks of appendicitis the greatest intensity of pain is elicited by pressure upon the abdominal walls over McBurney's point, while in tubo-ovarian disease the most tender point is lower down, in the ovarian region, or it may be found by pressure exerted in the vagina.

Nausea, stomach and bowel disorders, or an intact hymen would point toward appendicitis, while disorders of the functions of the genital organs, or fixity of the uterus, are evidences of disease of the tube and ovary.

The infection travels in many cases along the ligament of Clado, the so-called appendicular-ovarian ligament. This ligament is found present in about one out of every ten patients and extends from the meso-appendix to the right ovary. It contains a small blood-vessel from the right ovarian artery to the vermiform appendix, and also a chain of lymphatics. By this anatomic arrangement a direct communication between the appendix and the right tube is established. In the absence of the ligament of Clado a close proximity of the appendix to the right ovary and tube may cause an inflammation of either one to extend to the other.

To prove the source of primary infection is oftentimes impossible, When the colon bacillus is found in the diseased tube and ovary, it is evident that the disease began in the appendix; whereas. when the gonococcus is found in an inflamed appendix, the infection has been primary in the right tube and ovary.

The appendix should be removed during all gynecologic abdominal operations if it shows the slightest deviation from the normal, providing that time and the safety of the patient permit it.

I believe the day is not far distant when every appendix will be removed in all abdominal operations, providing the condition of the patient allows it.

LACERATIONS OF THE CERVIX AND THEIR CONSEQUENCES

The above is the title of a paper by Dr. John W. Taylor in *The British Gynaecological Journal* of November, 1903.

Although the subject belongs rather to minor gynaecology, it has an important bearing on what is, perhaps, still the gravest disease to which a woman is subject—purperal septicaemia—and that, in this way laceration of the uterine cervix becomes a not infrequent cause of death.

In most of the septic cases to which one is summoned after labour, there is found serious laceration of the cervix, of the vagina, and of the perineum as the wounds through which the septic process has started.

The greater number of lacerations of the cervix, like minor lacerations of the perineum, are of very little importance, heal in the right direction, and need no treatment. The lesser number are more important; many of them are really ruptures of the lower part of the uterus, they often extend quite above the vaginal roof into the broad ligament of one side; and they heal, not by any direct union of the raw surfaces, but by growth of epithelium over the raw surfaces. These deep, permanent fissures in the cervix, vagina, and supravaginal tissues seriously interfere with the proper involution of the uterus, and although the patient remains much longer in bed than usual, when she begines to get up, the uterus itself is still enlarged and heavy, and the torn cervix is often flabby and gaping. Then, in addition to weight, menorrhagia and backache, which may be put down largely to subinvolution, other important consequences are apt to follow :—

First, as to the position of the uterus, suppose the laceration is left-sided, extending into the vaginal roof and left broad ligament. The uterus, having lost the support on the left side, consequently settles down in the pelvis on this side, taking its fresh bearing on the left, from the highest limit of the tear. The sides of the laceration separate, and the same tension necessarily occurs at the angle of the tear. This "dragging" usually causes pain on the side affected; increased on standing, walking, or exertion, and relieved by rest in bed.

Second, the nutrition of the cervix. The gaping of the tear causes exposure of the cervical canal, the cervical mucous membrane becomes mechanically irritated, and easily affected by micro-organisms; the cervical glands increase in size, number and activity; and an excessive amount of glary muco-purulent discharge hangs about the cervix or escapes through the vagina.

In this way, or by more direct infection (after intercourse or miscarriage), some secondary sepsis sooner or later usually attacks the irritated cervix, the tear interferes mechanically with the circulation of the cervix, an oedema is added, and the distorted cervix swells. The mucous and sub-mucous tissues bulge outwards, causing eversion of the mucous membrane. From this condition a long train of symptoms may arise. The uterus may become enlarged and prolapsed. Pelvic pains and nervousness are only too frequent present.

OPHTHALMOLOGY AND OTOLOGY.

Under the charge of G. STERLING RYERSON, M.D.,C.M,
Professor of Ophthalmology and Otology, Medical Faculty, University of Toronto.

THE INFLUENCE OF THE EMOTIONS AS A CAUSE OF ACUTE GLAUCOMA.

This is the subject of a paper by Dr. W. Nobbe in the *Medical Fortnightly*, St. Louis. Nobbe has observed a strong emotion, be it anger, fear, fright, injured sense of honour, and so forth, immediately preceding an attack. He says the glaucoma patients are always of a nervous temperament and quotes Laquer as saying "The patients suffering from glaucoma are generally to be classed among nervous patients. They are easily excited, suffer from loss of sleep, and although well nourished, are of a colorless complexion." Nobbe cites the following cases: A man of 50, suffered from an attack of acute glaucoma immediately after visiting his wife's grave. An elderly lady, very sensitive about losing at cards and extremely anxious to hide the fact, suddenly lost one eye from acute glaucoma; after a long interval, playing again and losing heavily, she was taken again with the disease in the other eye, becoming completely and permanently blind. A lady of high social standing was caught in the act of stealing an object of small value. She was arrested—acute glaucoma. The last two cases were reported by DeWecker and similar cases by Mooren. Turning to groups of patients, how often the disease is met with among neurasthenic patients. The observations of Pampolla show that glaucoma simplex was present in the majority of 228 cases of disease of the cerebro-spinal nervous system while he found inflammatory glaucoma mostly in persons afflicted with atheroma and deformity of the spine. Acute glaucoma often develops in hysterical persons from slight causes. He quotes the following cases from the writings of Winckerkiwicz, Milliken, Hutchinson, Abadie and others. Severe toothache and neuralgia, nervous dyspepsia, the climacterium, all have been recorded as leading to acute glaucoma. Nobbe concludes, "I venture to say that the influence of the emotions on the development of acute glaucoma is to be found in the fact that through the general nervous conditions and excitements even the nerves of secretion for the eye lose stable equilibrium and are irritated, and that through this irritation a hypersecretion of fluid is caused; an attack of acute glaucoma must necessarily occur after an emotion when the withdrawals for the increased secretion are pathologically affected, that is, when the elasticity of the sclera is diminished or when a changed diffusion of fluid exists through the pathological processes in the blood vessels. Therefore I can fully

agree with Mooren who maintained that the obstructed withdrawal of intraoccular transudations, under the influence of extraocular neuroses, is capable of provoking an attack of acute glaucoma."

THE OCULAR COMPLICATIONS OF BRIGHT'S DISEASE.

Dr. Louis Stricker of Cincinatti read a paper on this subject before the 54th annual meeting of the American Medical Association (published in the *Journal A.M.A.* of February 20th.)

Stricker states that the eyes become involved as a result of the general systemic conditions arising in Bright's disease. These systemic conditions, briefly considered, are the result of faulty kidney excretion, leading to the retention of urea or other excrementitious substances in the blood. These retained products are either poisonous in themselves or secondarily lead to the formation of toxins, thus producing inflammatory and degenerative changes in the vessel walls and the tissues of the body; or they may. interfere with the proper conversion of the elements of food into those favourable for assimilation by the cells of the body, thus producing anemia and hydremia. To this abnormal condition of the blood is attributed the general arterio-fibrosis, which finds its expression in hypertrophy of the heart and general increased arterial tension, leading to the exudation and hemorrhage or to total ecclusion of the arterioles, with subsequent death of the part cut off.

In the eye we find the vascular system and the optic nerve and retina most frequently involved though the media may be secondarily involved. As in all constitutional affections, it is generally binocular.

The question naturally suggests itself, how long a time after changes have taken place in the eye can a favourable outcome be expected? Stricker thinks that vascular changes and exudates offer a better prognosis than changes in the nerve elements, the impairment of which is apt to be permanent.

The ocular symptoms of pregnancy cause special concern. We are called on to decide whether it is justifiable to induce abortion to save the eyesight of the mother, since it is well known that the kidney disease subsides quickly. An estimation of the urea at this time becomes a matter of special importance and where this falls below the normal, the time for active interference has arrived. Where the pathologic changes in the retina are not great, the pregnancy far advanced and the urea quantity normal, one may temporize, but in the reverse conditions abortion should be at once induced. Only five per cent. of cases of Bright's disease develop ocular symptoms but they are ominous.

There are no ocular symptoms of Bright's disease from which alone a positive diagnosis of Bright's disease can be made without further investigation. In the acute form the prognosis is more hopeful of a stay of ocular complications than in the chronic form, but in any case recovery is attended with more or less impared vision.

LARYNGOLOGY AND RHINOLOGY.

Under the charge of PERRY G. GOLDSMITH, M.D., Belleville.
Fellow of the British Laryngological, Rhinological and Otological Society.

THE RELATION BETWEEN DISEASES OF THE NOSE AND DISEASES OF THE EYES.

Stillson, *North-west Medicine*, February 1904, cites four paths through which intranasal disturbance may cause ocular affections: (*a*) through the anastomosing blood vessels, (*b*) by way of continuity of structure, (*c*) through the lymphatics, and (*d*) by reflex route. The vascular route as given by Zuckerkandl by means of the ethmoid arteries, by branches of the opthalmic, and by collateral trunks along the lachrymo-nasal duct, which joins the angular, the opthalmic, and a branch of the infraorbital. Zeim, who first drew attention to the fact that disease might be conveyed along this vascular path, described four cases of limitation of the field of vision that he considered due to nasal affections. The explanation given of this interdependence is that the retinal hyperemia caused through the anastomotic connections of the vessels of the nasal mucous membrane and the ciliary plexus induces a disturbance of the intraocular circulation and functions of the retina. Sir Felix Simon's case is quoted of exophthalmos of the right eye with Graefe's and Stelwag's sign following the application of the galvano-cautery to some nasal polypii. Attention is drawn to the close relationship existing between the nasal accessory sinuses and the orbit.

Literature has been carefully searched by Stillson for cases bearing on this topic. Eales of Birmingham cured a case of optic neuritis by evacuating a collection of puss in the ethmoid cells, Lennox Brown, a case of glaucoma by removal of nasal polypii, Pagenstecher, orbital cellulitis with contracted visual fields by washing a suppurating maxillary antrum through the alveolus. The author cites two cases of his own, one a marked case of central scotoma cured by attention to the accessory sinus mischief present, and one of operation and death following removal of a tumour of the ethmoidal region.

A case only recently occurred in London, England, in which a frontal sinusitis was cured by attention to a suppurating lachrymal sac.

REMOVAL OF THE TONSILS AS A PREVENTIVE OF DISEASE.

Increasing experience proves beyond all doubt that a considerable number of infections take place through the tonsil. Of these perhaps the most frequent is acute articular rheumatism, but it is a well known fact that other diseases, depending upon micro-organisms for their existence, begin in the body after their germs have entered through the tonsillar tissue. Several years ago, the late Dr. Frederick A. Packard published a paper of a clinical character in which he brought forward convincing evidence of these facts, and physicians should at the present time regard diseased or enlarged tonsils as a constant menace to the health of their possessor. In the *American Journal of the Medical Sciences* for November 1903, Koplik, of New York, publishes a paper in which he points out that tuberculosis of the tonsils may occur, and that frequently the tonsils may act as a portal for tubercular infection. Primary tuberculosis of the tonsil is of course a very rare condition, but the bacillus tuberculosis, and the results of its presence, can often be found in the tonsils of tubercular patients, and even in the tonsils of those who may not be known to be tubercular. How frequently do practitioners of experience meet with children suffering with large cervical glands which in modern view are mostly tubercular in origin, and which are due in the majority of instances to the entrance of tubercle bacilli through the respiratory, buccal, or tonsillar mucous membrane. And how frequently do we see children who have chronic hypertrophy of the tonsils, suffer from diphtheria, from ulcerated throat in scarlet fever, and from naso-pharyngeal obstruction, which in the course of respiratory diseases often seriously interferes with their taking of sufficient air and nourishment.—*The Therapeutic Gazette*, January 15.

ADENOIDS.

Adolph Blitz, in the February *Medical Sentinel*, has a very instructive paper on "Adenoids." He draws particular attention to the vulnerability of that lymphoid ring known as Waldeyer's ring. Through this tissue many infectious organisms find their entrance into the system. Blitz laments the fact that enlarged tonsils, especially the third or Luschka's tonsil and lingual tonsil are so little attended to by the medical profession. Uhlman, who wrote on "the tonsils as portals of infection," is quoted as follows: (1) That the *normal* tonsil has a physiologic function, probably protective to the organism. (2) That being in itself often diseased, the physiologic function of the tonsil is impaired and that instead of being protective, it is the nidus for the growth and distribution of pathogenic organisms and their poisonous products in the system. (3) That many grave and fatal general infections have their origin in the tonsils. (4) That if the exanthemata,

particularly scarlatina, are of bacterial origin, the tonsils act in part as port of entry. (5) That acute articular rheumatism and the diseases endocarditis and chorea, in the majority of cases, are due to the action of attenuated bacteria, their toxines, or both, entering the system through a diseased tonsil. (6) That in those rare cases of typhoid fever in which no intestinal lesion can be demonstrated, the similarity of the tonsil tissue and Peyer's patches suggests the tonsil as the portal of entry of Eberths bacillus. (7) That scrofulosis is often associated with diseased tonsillar tissue, and that the tubercle bacillus often enters the system *via* the tonsil. (8) That the tonsil is too often little examined at autopsy, and much light might be shed on fevers of uncertain origin by its bacteriological and histological examination.

ALARMING HEMORRHAGE FOLLOWING TONSILLOTOMY; IT'S CAUSE AND CARE.

Since almost every one has at some time or other to perform the operation of tonsillotomy, Harmon Smith's paper, *Laryngoscope*, Feb'y, '04, on hemorrhage during this procedure, is read with considerable interest. He thinks the scarcity of fatal cases is probably due to their not being reported. The special causes which may occasion bleeding are as follows:—

(1) Hæmorrhagic diathesis, or hemophilia. In hospital work it is difficult to get any satisfactory family history on this matter, and too often, in private practice, it is not sought.

(2) Filroid tonsils, when the glandular substance is largely enmeshed with fibrous tissue, which prevents the arterioles from contracting when cut.

(3) Age; occurs more in adults than in children. Due entirely to the increased fibrosis and greater vascular supply.

(4) Sex; more frequent in males than in females.

(5) Acute inflammation. As a rule removal should not be undertaken.

(6) Anaemia; when there is marked deficiency in fibrin the coagulating element of the blood. Preliminary constitutional treatment is necessary.

(7) Malignancy. In malignant cases ligation of the common carotid may be necessary.

(8) Abnormalities in the distribution of the blood vessels of the tonsil, such as abnormal distribution of the ascending pharyngeal, abnormally large tonsillar or internal carotid artery. The author is of the opinion that cocaine and adrenalin predispose to secondary hemorrhage.

Treatment.—The hemorrhage may stop by sitting the patient upright and inducing syncope. The galvano-cautery is only of value in small bleeding areas and not in large ones. The paquelin cautery may be successful, but in most cases is difficult to apply accurately to the bleeding point. Finger pressure with gauze soaked in tannic acid is very tedious and painful. The bleeding point may be seen and caught with forceps and possibly ligated. Sewing the pillars together may also be of value, but it is difficult to perform in a rapidly bleeding case. The author has found most satisfactory the tonsillar haemostat of Mickulicz-Stoerk. While. occasionally, one will get excessive bleeding from any method of operating, the reviewer is convinced that cases of hemorrhage will be quite rare if the cutting instruments are confined to persons under seventeen years of age, after which age the punch, or, if possible, the snare will be safest.

REPORT OF TWO TRACHEOTOMY CASES.

Clarence Porter, in the *Virginian Semi-monthly*, gives notes on two cases, almost moribund from diphheria, which were cured by a rapidly performed tracheotomy, termed a stab operation, Intubation had been performed on one, but without result, owing to the membrane having been situated too low in the respiratory tract. In discussing the desirability of intubation or tracheotomy, he strongly favors the latter The points against intubation are given as follows: Liability of pushing membrane before the tube; false security given when the tube is in place, owing to extension downward of membrane; frequently the tube comes out, necessitating reinsertion; necessity of constant and skilled supervision, following insertion of the tube; difficulty in feeding; the tube may become blocked by membrane and have to be removed to be cleaned. He says practically all these troubles are avoided by opening the trachea, but says nothing of the serious results that follow in the majority of cases. His conclusions are as follows: 1. Tracheotomy is a preferable operation to intubation, and when given an equal chance, the mortality is less, that tracheotomy will cure many cases which intubation cannot cure. 2. Tracheotomy is a more simple operation and requires measures are needed to secure more air, surely the simple and rapid operation of intubation should be tried before resorting to a procedure in which death so frequently follows in diphtheritic cases Because one should have at hand means to rapidly do a tracheotomy is not sufficient or reasonable grounds to infer that the latter operation should be performed always by preference.

PROVINCE OF QUEBEC NEWS.

Conducted by MALCOLM MACKAY, B.A., M.D., Montreal.

At a meeting of the Montreal Medico-Chirugical Society, Drs. J. A. Hutchison and John McCrae showed a pathological specimen of double tuberculous pyo-nephrosis with calculi. The patient, who was 45 years of age, was admitted to the Montreal General Hospital on October 1903. He gave a history of having suffered pain in the left groin two years before, which was accompanied by bloody discharge from the urethra and vomiting. He had recurrent attacks of this trouble from the date mentioned, and entered the hospital in a very emaciated state. Physical examination showed that in the region of the left kidney there was marked tenderness, and the urine contained a considerable amount of pus and two grams to the litre of albumen, the specific gravity being 1011.

An operation was advised and on opening into the left lumbar region and cutting into the kidney a stone was found and removed. There was a considerable amount of cheesy material in the pelvis of the kidney and an indefinite mass could be felt high up behind the ribs. The wound was packed and drained but the patient died four days later of septicaemia. At the post mortem the kidneys, ureters and bladder were removed together. The left kidney contained a large mass of tuberculous material which destroyed to a considerable extent the kidney substance. On the right side a calculus was found in the pelvs surrounded by a quantity of pus.

Drs. F. G. Finlay and John J. McCrae reported a most interesting case of malignant gonorrhoeal endocarditis. The patient, a male aet. 23 was admitted to the Montreal General Hospital on October 10th '03. He was a sailor and with the exception of an attack of malaria in the tropics had no illness until January 25th '03, when he became infected with gonorrhoea. For this trouble he remained five weeks in a hospital and made a good recovery. While under treatment a hard sore developed with secondaries coming on later. The present illness began on September 22nd with pain in the knees, legs, and hands, more marked on the right side. Four days later he became unable to carry on his work on board ship suffering great pain in the extremities accompanied by repeated chills. He was still unwell when he arrived at Quebec after the transatlantic voyage, and was treated there for a short time, but eventually proceeded to Montreal and entered the surgical wards of the

General Hospital. He was admitted on October 10th, and on examination was found to be covered with an eruption of secondary syphilis, the glands were palpable; there was no discharge from the urethra. He complained of great pain and tenderness in the extremities, more particularly in the legs. The cardiac dulness was normal and no murmurs could be detected. His pulse varied fram 98 to 112, and his temperature was 100 4-5. He had occasional rigors. Treatment in the form of mercurial inunctions and potassium iodide was at once commenced. Within a week a change was noticed in the condition of the heart, a soft musical diastolic murmur could be heard at the base, although the cardiac impulse was full and the dulness remained normal. Examination of the urine at this time showed casts but no albumen. The temperature soon became very irregular, and readings of 104° and 105° accompanied by rigors were not uncommon. On October 26th the character of the murmur changed and lost its musical tone; later, however, a systolic apical murmur developed and the musical note returned at the base. The blood showed considerable diminution of red cells and there was a leukocytosis of 19,000 to 36,000. Cultures from the blood were negative. A diagnosis of malignant endocarditis was made and the post-mortem findings verified this conclusion. On one of the cusps of the aortic valve a tag was found, heaped up in a way which seems to be rather characteristic of gononhœal endocarditis. Changes in its size and position accounted for the appearance and disappearance of the musical murmur. A slight pericarditis was also present. Cultivation from the pericardial fluid and heart blood showed pure cultures of gonococci.

Dr. England read the case report of a patient operated upon for carcinoma of the rectum by Kraske's method. The patient was a male aet 37, who in May, 1903, applied for relief from a discharge from the rectum. There was a history of obstinate constipation for two years, tenesmus, bleeding piles, loss of weight and general debility. His father died of carcinoma of the liver and his sister had been operated upon for carcinoma of the breast. He appeared to be very weak, sallow and emaciated, and there was as a rule a temperature of 101°. Digital examination of the rectum showed a mass infiltrating the bowel wall and attaching it to the pelvis. There was also a painful ulcerated surface about two and a-half inches above the anus. On May 29th a preliminary colostomy was performed and the abdomen found to be free of enlarged glands. Two days later this was converted into an artificial anus, and the patient's condition at once began to improve. On June 24th the rectum was removed by Rydyour and Tuttle's modification of

Kraske's operation. The recovery was slow, but on October 22nd the patient left the hospital with the wound practically healed.

Drs. Ross, Chapman and Goodall read a paper on child-birth with eclampsia, illustrated by a chart showing the quantity of urea and albumen excreted daily during a period of three months. The paper started a lengthy discussion upon eclampsia and its treatment in which many plans was mentioned, but nothing new was presented.

On April 15th Dr. A. Primrose, of Toronto, will read a paper entitled "Some Observations on the Surgical treatment of Chronic and Acute Nephritis," before the members of the Montreal Medical Society.

The tenth annual report of the Royal Victoria Hospital has been published this month. The number of patients admitted during the year was 2,931, an increase of 117 over the previous year. The total days of hospital treatment aggregated 74,835, as against 70,609 during the previous year, an increase of 4,226 days. The average stay in the hospital per patient 25.71, as against 25.22 in 1902. Of 142 deaths 38 took place within 48 hours of admission, the death rate being 4.88% or, if those dying within 48 hours of admission be deducted, 3.57%. In the out-door department the total number of patients treated was 4,398 ; the number of visits aggregated 23,638 ; medical, 9,890 ; surgical, 4,578 ; eye and ear, 4,122 ; nose and throat, 3,506 , diseases of women, 1,542. The following appointments were made to the medical staff: Assistant Surgeons, Drs. Archibald and Keenan ; Assistant Laryngologist, Dr. Jamieson; Associates in Medicine, Drs. Cushing, Fry and McCrae ; Director of Clinical Laboratory, Dr. Bruere ; Clinical Assistants in Neurology, Drs. Robertson and Mackay ; Clinical Assistant in Medicine, Dr. Burrett ; Clinical Assistant in Ophthalmology, Dr. Harvey ; Assistants in Bacteriology, Drs. Yates and Williams ; Medical Registrar, Dr. Curling

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According to the report of Dr. Laberge, the medical health officer, the deaths for the year 1903 were 6 911. During the months of June, July and August there were 2,204 deaths. It is in these months that the death rate among children becomes high. In the year 1903, in these three months, 879 children died, He thinks efforts should be put forth to lessen the infantile mortality. Among preventive means, pure milk must occupy a first place. Something could also be done to lessen the number of deaths from tuberculosis. Public baths were being built and would be of much value from a sanitary point of view.

MEDICAL SOCIETIES AND GATHERINGS.

TORONTO MEDICAL SOCIETY.

Stated meeting February 25th, 1904, Dr. Silverthorne in the chair. The minutes were taken as read. Dr. Dickson showed a man who had not been sick in 40 years. He had a scar from a burn when five years old. Some time ago, the scar became sensitive to the sun, then it began to discharge, but healed up under a simple ointment. There was a growth of irregular outline now in the site of the scar, 5 x 4 inches. The case was shown so as to be seen again by the members after further treatment. The ultra-violet rays were being used. The President said that a photo and a section should be made now in its present state.

Dr. W. P. Caven read a paper on medical treatment of gall stones. (See page 701).

Mr. Cameron read a paper on the surgical treatment. He said the incision should be vertical which can then be enlarged like an S., the muscle being divided by blunt disection. The gall-bladder is hard to find in some cases. The cystic and common ducts should be searched. A hard sand bag under the back of the patient brought the bladder two inches nearer the surface. If jaundice be present, prepare for hemorrhage, but it was liable to occur in cases that there was no apparent jaundice. Calcium chloride should be used before operation, by mouth or rectum. The incision in cholecystotomy in the bladder should be made at the fundus for drainage. If the stone is in the cystic duct, return it to the bladder if possible. There was one solvent for stones and that was healthy bile. A stone should only be crushed if it is soft enough to permit this by the finger.

In the discussion, Dr. Oldright said that one should not hesitate to make a transverse extension in the incision if needed. He wanted to hear most about the diagnosis. Dr. Powell said that the diagnosis of gall stones did not mean operation. He described Dr. G. Cook's method of drainage. Dr. Bruce said that gastric lavage had been of service in relieving the symptoms. He thought that every case of operation should be drained. After removal of the stone, a tube placed down and packed around with iodoform gauze was a good method. Ochsner of Chicago packed the bladder with gauze. The bladder should be sutured to the peritoneum, not to the skin. He thought there was no use in suturing the common duct, as drainage sufficed. Dr. Ferguson thought that he had

had good results from the continued use of ether. During the attack atrophine was better than morphia and should be pushed to the full extent. With regard to diet, the proteids should be obtained from the vegetable and not the animal kingdom. He mentioned a case in which the common duct had ruptured. He cut down and drained, but did suture the duct, the patient making a good recovery. Dr. W. J. Wilson said that many recurrences took place after the removal of stones, because the condition favoring the formation in the first place had not been removed, or cured. The treatment of the duodenum was more important than the treatment of the gall-bladder after the operation. Dr. C. Starr, following Dr. Roswell Park, advocated the removal of the entire bladder for the same reason that the appendix was removed. Dr. McPhedran said that there was one point in the diagnosis which had not been touched upon, and that was a pain at the right side at the level of the 9th vertebra. Drs. Caven and Cameron replied.

AMERICAN INTERNATIONAL CONGRESS ON TUBERCULOSIS.

As already announced, the above Congress will be held in St Louis on 3rd, 4th and 5th of October, 1904. Dr. E. J. Barrick, of Toronto, is the president, and is putting forth great efforts to make the gathering a great success. So far, the indications are of a most encouraging character. From all sources come promises of assistance in the way of papers and the presence of well known authorities in medical science.

A short time ago Mr. Clark Bell, LL.D., of New York, visited Toronto and was the guest of Dr. Barrick. While in Toronto a number had the opportunity to meet Mr. Clark Bell, who is editor of the *Medico-Legal Journal, Taylor's Medical Jurisprudence*, and a member of the New York bar. He is an enthusiast on the question of tuberculosis and the efforts that should be made for its suppression. The Federal Government of Canada has decided to send delegates to the Congress. Canada is taking an important part in this movement as will be seen by the following list of officers:—

Honorary Vice-Presidents—Dr. T. G. Roddick, M.P., Montreal, Que.; Sir William Hington, M.D., Montreal, Que.; Hon. Senator George A. Drummond; James Loudon, president of the University of Toronto; Hon. William Mortimer Clark, Lieut.-Governor, Ont., Hon. J. R. Stratton, Dr. John Ferguson and Prof. Adam Wright, Toronto.

Vice-Presidents at large—Dr. W. P. Caven, Toronto, Ont.; Dr. Daniel Clark, Toronto, Ont.; Rev. C. S. Eby, D.D., Bracebridge, Ont.; Dr. R. W. Powell, Ottawa, Ont.; Dr. W. H. Moorehouse, London, Ont.

Vice-Presidents of Provinces—Dr. Albert A. Macdonald, Toronto, Ont.; Dr. J. A. Robertson, Stratford, Ont.; Mayor Adam Beck, London, Ont.; Ex-Mayor James Cochran, Montreal Que.; Mayor W. W. White, St. John, N.B.; Charles J. Coster, St. John, N.B.; Ex-Mayor John Arbuthnot, Winnipeg, Man.; Dr. H. H. Chown, Winnipeg, Man.; J. A. M. Aikins, K. C., Winnipeg, Man.; Dr. J. D. Lafferty, Calgary, N. W.T; Dr. G. A. Kennedy, McLeod, N. W. T.; Rev. Dr. J. C. Herdman, Calgary, N. W. T.; Dr. C. J. Fagan, Victoria, B. C.; Rev. Leslie Clay, B. C.; Dr. S. T. Tunstall, Vancouver, B. C.

Prof. M. Benedikt, of Vienna, has written a lengthy open letter to Mr. Clark Bell in which he points out the great benefit that should come from such a congress, and appeals for a generous support to it from the profession on this side of the attack. He states that he will be present to take part in the proceedings. In his letter he points out that social misery is one of the great factors in the causation of tuberculosis, and for the correction of this, all classes should become interested.

THE ONTARIO MEDICAL ASSOCIATION.

The Ontario Medical Association will meet in Toronto on June 14, 15, and 16, 1904. Already arrangements are being completed to make the meeting this year a great success, and many papers have been promised by leading members of the profession. Even if any one finds it impossible to be present, he should become a member of the Association. In this way each one can help the Association, himself, and his patients.

THE CANADIAN MEDICAL ASSOCIATION.

The annual meeting of the Canadian Medical Association will be held in Vancouver and Victoria, B.C., on the 23rd, 24th, 25th and 26th of August, 1904. It would be well to remember that this is the national medical association, and for this reason it is hoped the profession will give it a generous support. The association has done much in the past and is destined to do much more in the future for the medical profession of this country. There are many questions that affect the various provinces in common with each other. These questions can be discussed to greatest advantage in the national medical association. Let there be a large attendance, and a lively interest manifested in everything that makes for the good of the medical profession in Canada.

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EDITORIAL.

THE PAROXYSMAL NEUROSES.

In the Australasian *Medical Gazette* of recent date, Dr. Francis Hare, of Brisbane, and Inspector General of Hospitals, Queensland, discusses in a series of articles the "Mechanism of the Paroxysmal Neuroses." His articles display a thorough knowledge of the literature of the subject and a coherent and logical method of reasoning. It is with much satisfaction that we review some of his main positions.

He begins by referring to the well known laws that govern the circulation such as that when general arterial tension is lowered, the heart's action is increased in frequency; that when the general arterial tension is raised the heart's action becomes less frequent; that if the arterial tension is lowered in some portion of the body to maintain a normal frequency of the heart's action there must be an increase in the arterial tension in some other portion of the body; and that, if the arterial tension be raised in some portion of the body the heart's action will be disturbed unless there be lowered tension somewhere else. In support of these views he cites the opinions of Stewart, Leonard Hill, Marie, Oliver, Heidenhain.

Migraine, or hemicrania, is the first of these diseases discussed by Dr. Hare. He refers to many authorities in support of the primary vascular changes in the attacks, such as the cold extermities and the dilated temporals. Attention is drawn to the observations of many, and fully corroborated by his own, that compression of the carotid artery instantly arrests the pain, which just as instantly returns when the pressure is removed. He points out the clinical experience of himself and others that in bilateral migraine, pressure on one carotid arrests the pain on the side of the pressure, but increases it on the other; whereas, pressure on both carotids lessens or removes the pain on both sides. In the case of occipital migraine, pressure on the occipital arteries acts in precisely the same manner. He lays down the statement "that there is but one hypothesis which can explain these facts, and that is that there is in all cases vaso-dilatation at the seat of pain, and that the vaso-dilatation is the proximate cause of the pain." He meets with

much skill the opinion of eminent neurologists that migraine is primarily due to a discharge in sensory centres.

He then takes up asthma. Here we think, there can be no disputing his ground. The suddenness with which an attack of asthma comes, as also hay fever, excludes an inflammatory condition; but still more so does the suddenness of its disappearance in many instances. The entire clinical history of asthma and hay fever precludes the possibility of an inflammation, and clearly establishes these attacks as due to a sudden localized dilatation of the vessels of the affected area. The great masters in medicine have taken this view, such as Salter, Broadbent, Gee, Osler, Graves, Watson, Fagge, etc. It is also borne out by the value of such drugs as dilate suddenly the vessels in other portions of the body, such as amyl-nitrite, nitro-glycerine, belladonna, potassium iodide, morphia Strong emotion will arrest an attack of asthma; and a person who is so bad with an attack as to be unable to hold a conversation, could preach, or address a large audience. The proximate cause here is dilatation of the nasal and bronchial vessels.

With regard to Angina Pectoris, Dr. Hare takes strong ground that the cardiac pain and the sense of suffocation are due far more frequently to dilatation of the coronary areas than to contration of these vessels. In support of this view he calls attention to the cold extremities in attacks of angina pectoris, and to the great value of general vaso-dilators, such as the inhalation of chloroform, nitrite of amyl, the administration nitro-glycerine, the hydermic injection of morphine, etc. These agents dilate large areas, and therefore, remove blood from the coronary vessels. He states that it is in the areas of dilated vessels, as in migraine and asthma, and not in the areas of contracted vessels, that there is pain and distress. He holds that angina pectoris is an instance of coronary hyperæmia and not of coronary ischæmia.

Dr. Hare, in his remarks on the etiology of epilepsy, summarizes the case as follows :—

1. Vaso-constriction, causing rapid rise in general blood pressure.
2. Cardiac inhibition, causing sudden fall in general blood pressure.
3. Sudden cerebral anæmia, causing unconsciousness and tonic spasm.
4. Recommencement of the heart beat, causing rise in general blood pressure, and returning cerebral circulation.
5. Relaxation of tonic spasm; clonic convulsions.
6. Re-establishment of blood pressure and cerebral circulation; cessation of all convulsion.
7. Sleep recuperative of exhaustion and damage.

He argues at length and with marked ability that sudden brain anæmia is a cause for convulsions.

Other conditions of a more minor character are referred to, such as laryngismus stridulus and Raynaud's disease.

The series of papers are worthy of careful study. One thing we must bear in mind, namely, that even though these conditions be due proximately to vaso-motor disturbances, it is necessary to account for these vaso-motor changes. The vascular system is under the control of the nervous system, so that the discharge of some centre may be the primary factor after all. This over-action in a given group of nerve cells leads to vascular changes of either constriction or dilatation, which may be quite local, as in the flushing of one cheek, or the coloration of a single finger from dilatation of its vessels. Whether these events are due, in turn, to some instability in the nerve matter, or to some poison in the system, as Haig claims for uric acid, it is impossible to say for certain.

THE HISTORY OF APPENDICITIS.

Dr. Howard A. Kelly, of Baltimore, has been dipping into the history of appendicitis. From an address, delivered by him some time ago in Paris, we learn that Mestivier, in 1759, reported a characteristic case of appendicitis. There was a swelling on the right side of the umbelicus. This was incised and about a pint of fœtid pus escaped. At the nicropsy there was found a pin in the appendix. It was crusted over and eroded. This had clearly set up the disease. From the same reference in the *British Medical Journal*, we learn that in 1776, Joubert Lamotte published the report of a case, the patient having died with marked tympanites. At the autopsy a concretion was found in the appendix and some cherries in the cæcum. As it was long after the cherry season they must have lain in the cæcum for considerable time. This is the first instance of a fœcal calculus. In 1808, Jadelot published a case; and, in 1813, Wegeler published another in France. In 1824, Layer-Villarmay published a paper on "Observations to serve for the History of Inflammation of the Cæcal Appendix." He relates two cases, with necropsy. He pointed out the importance of inflammation in the appendix. In 1827, Melier published an article on the subject, and related some new cases. He speaks of the nature of the lesions, and even thought surgical treatment might be justified. He was frowned down by Duputren, then the leading surgeon of France, and Melie 's brilliant suggestion came to nothing for many years.

Turning to Germany, we also learn from Dr. Kelly's address before the Glasgow Obstetrical and Gynœcological Society, and published in the

Glasgow Medical Journal, that about 1827, Puchelt introduced the term perityphlitis for inflammations in the right iliac region. This was most unfortunate, as it threw the thought away from the appendix to the tissues around the cæcum, and set the trend of research backwards for many years.

From the same address, we learn that Britain's share in the study and discovery of appendicitis is a very creditable one. Dr. Parkinson, in 1812, gives the history of a case in the *Medical and Chirurgical Transactions*. The patient was a boy, aged 5. He had been suddenly seized with pain and great prostration. The abdomen was tumid, painful on pressure, the countenance pale, and the pulse small. Death took place in three days. At the autopsy the appendix was found inflamed, the internal surface ulcerated, and an opening through the wall of the appendix large enough to admit a crow quill. This is, perhaps, the first clear discription of a perforation as well as inflammation of the appendix.

In the *Edinburgh Medical and Surgical Review* for July, 1824, Dr. Blackadder contributed an able essay upon "Notices of Certain Accidents and Diseases of the Structures of the Cæcum and Caput Coli." He gives a very graphic account of a case, in which, after death, the appendix was found inflamed and a large lumbricoid worm in it.

In 1832, Copeland in his "Dictionary of Practical Medicine," gives a clear description of the difference of inflammations in the cæcum, the appendix, and the pericæcal tissue. He thought, however, that inflammation in the appendix was merely an extension of the disease from the cæcum. He is, perhaps, the first to include blows and violent exertion among the causes of disease of the appendix.

Thomas Hodgkin, in his lectures, published in 1836, remarks that "the partial inflammation of the peritoneum, in the iliac fossa, is sometimes set up by disease in the appendix cæci." Then again he states: "Even in these cases, nature sometimes succeeds in limiting the inflammation to a part of the right side; but it is at other times diffused over the whole of the abdomen, is accompanied by symptoms of the most serious nature, and quickly proves fatal."

In the *Elements of the Practice of Medicine*, Richard Bright and Thomas Addison remark that, "From numerous dissections it is proved that the fæcal abscess thus formed in the right iliac region arises, in a large majority of cases, from disease set up in the appendix cæci. It is found that this organ is very subject to inflammation, ulceration, and even to gangrene." These writers speak of concretions, strictures, and injuries as causes.

John Burne, in the *Medical and Chirurgical Transactions* for 1837 and 1839, refers at much length to the diseases of the appendix.

Unfortunately, he rather clouds the discussion by introducing the term "tuphlo-enteritis."

In the year 1848, John Hancock, a London surgeon, incised a swelling in the right iliac region *before fluctuation* could be felt. In a few days afterwards two faecal concretions came away in the discharges. He came to the conclusion that this was due to disease in the appendix, this organ having ruptured, the concretions making their escape.

Mr. Gay in *Proceedings* of the Pathological Society, of London, reports a case of internal strangulation on which he operated, caused by adhesions between the appendix and adjacent organs from prior inflammation of the appendix.

It is only necessary to mention the names of Clay, Baker, Brown, Spencer Wells, Lawson Tait and many others, especiallly the eminent Sir F. Treves.

For Canada there is a share in the history of appendicitis. In 1858, Dr. Howard, of Montreal reported a case. He remarks that perforation of the appendix is far more frequent than perforation of the caecum. "The appendix may become highly inflamed, ulcerated, and even extensively destroyed by sphacelation, but the morbid action extends with extreme rarity to the caecum itself." Here we have a clinical lecture on appendicitis. in Montreal, by the late Dr. Howard, in 1858.

Nor has the United States lagged much behind either Britain or France. In the year 1837, Dr. Walcott Richards, of Cincinnati, reported a case of perforation of the appendix. A similar case was reported the year following by Dr. Edward Hallowell, of Philadelphia. In these cases the autopsies revealed the disease of the appendix and the presence of perforation. In 1867, Dr, Parker published in the *New York Medical Record* the account of four cases in which he had opened abscesses, due to disease of the appendix. In one of these he had operated before the appearance of fluctuation. He remarks thus—"Nature does labor in behalf of life in two ways: by means of the wall of false membranes which she builds around the abscess; and by the ulceration which gives external vent to the escape of its contents. It then became a question whether surgery might not be able to render nature assistance. To be successful the incision should be made neither too early nor too late." Dr. Daniel Stimson, of New York, often spoke of the work and teachings of his father-in-law, Dr. Willard Parker, on appendicitis, and how an operation would do in most cases, what nature did in some cases, effect an opening for the escape of the pus.

THE SPREAD AND CONTROL OF DIPHTHERIA.

The Klebs-Lœffler bacillus is found in almost all climates. In the tropics, diphtheria is met with in a mild form sporadically. The activity and virulence of the disease increases as the tropics are receded from. In temperate and cold climates, the disease prevails in the autumn and winter months. It would appear, therefore, that the heat of the tropics and the summer months wakens the bacillus and renders them less virulent, though not competent to destroy them altogether. The bacilli may be attenuated by cultivating them at a temperature of 99.5° F. The bacilli do not seem to be influenced much by humidity, as epidemics are met with in dry seasons, or when the weather is rainy. A moist condition of the soil favors the growth and life of the germ, so long as the soil is rich in organic matter. It is worthy of note, that diphtheria has now become a town disease, whereas it formerly was most frequently met with in the country.

The bacilli do not appear to be carried to any great distance by the air. They are found, however, in the air of the wards in which there are diphtheria patients. The idea that the disease is conveyed by means of sewer gas has been set aside. The sewer gas may lower the general health, but cannot carry the bacilli.

There are undoubted instances where the disease has been spread by means of milk. Competent experts have found the germs in the suspected milk. In the Brown Institute there was an outbreak of the disease among the cats, due to an infected milk supply with which the animals were fed.

It is well known that the bacilli may remain alive and active for many weeks in clothing, or in a room where a patient has been, unless the process of disinfection is thorough. The bacilli have been cultivated from a handkerchief in one instance, and from a piece of dried membrane in another, after a lapse of three months. The infection may cling to premises for many months.

Direct corporeal contact is the most frequent source of infection. Many mild cases are never detected, and only shew the symptoms of a slight sore throat, or a little nasal discharge. These cases often convey the disease to others. The germ has been known to remain in the throat or nasal passages for three months after the recovery from the attack. A mild sore throat may be associated with the bacilli and no membrane present. A child is known to have carried the disease to others two months after recovering from a sore throat.

The disease may be spread from the sick to the well by means of healthy persons who have been waiting upon the patients. The bacilli,

in such cases, is frequently found in the nose and throat of the attendants. The disease may also be carried by domestic animals, It is well known that cats are subject to the disease. The bacilli have been found in dogs. The diphtheria bacilli have also been found in the sores on the teats of cows, and, in this way, the milk became infected. Fowls and rabbits have also been shown to be infected by the disease, and most likely to have given it to the human subject, in some instances, where no other source for the disease could be found. The horse is subject to rhinitis containing virulent diphtheria bacilli.

From the above, it would appear that the milk supply is always a matter of importance. Cows with sore teats should be examined. Books, pencils, etc., should not be allowed to be used by others after being handled by diphtheria patients, until these things have been thoroughly disinfected. Persons suffering with diphtheria should not be allowed to play with domestic animals or pets. The bacillary test should be made before those who have had the disease are permitted to mingle with others. All utensils and clothing used by the patient must be thoroughly disinfected. The administration of 500 units of antitoxine is an excellent prophylactic for a period of about three weeks. With regard to the bacillary test it may be said that we must be guided by positive results but should not be misled by negative ones.

HODGKIN'S DISEASE.

In the October issue of the *Bulletin* of the Ayr Clinical Laboratory there is an exhaustive study of Hodgkin's Disease. This disease was first described by Hodgkin in 1832. In 1856, Wilks, in London, and Bonfils, in France, reported cases. Wilks gave the disease the name of the distinguished physician who first brought it to the notice of the profession, namely, Hodgkin's Disease. It has been called progressive lymph-gland hypertrophy, pseudo-leukæmia, lymphosarcoma, and desmoid carcinoma. These names, to some extent, attempt to convey the notion of its pathology held by those who gave these names to the disease. These names also reveal the fact that such eminent pathologists as Conheim, Virchow, Langhans, Winewarter, Gowers, Wilks, have regarded the disease as a clinical condition, but not as a pathological entity.

The disease usually begins under the age of 40; and is much more common among males than females. The duration of the disease is usually from a few months to five years, not often exceeding three years. As to its etiology, no definite predisposing causes have been

determined. A history of syphilis or tuberculosis is rarely found, and appear to have no connection with the disease. It has been asserted that the tonsils are the way through which the infection enters. But this is not borne out by recent observation, and the glands in the neck are usually the first affected, and before the tonsils show any sign of disease. The tonsils may become involved in some cases, but not often.

The disease shows itself first in the glands of the neck in the majority of the cases. Sometimes the axillary glands are first affected. One side of the neck only may be involved. Or, it may begin in one side and extend to the other. In some instances, it begins in both sides at once. In most cases, the superficial glands are soon all affected. The deep glands are invaded as the disease progresses, such as the retro-peritoneal, the mediastinal, and the bronchial. There are cases in which only one group of lymphatic glands is diseased.

In the early stages of the disease the patient's health is generally good. At first, the swollen glands are neither painful nor tender, and are freely movable. Even when the glandular swellings are very large, separate glands can usually be made out. The skin over the swollen glands does not become adherent, nor is there any tendency to suppuration. In this respect they differ from tubercular or syphilitic gland disease. As the glands enlarge, many serious pressure symptoms may appear. Secondary growths may occur in other organs, as the spleen, the liver, in the lungs, on the walls of the stomach, or intestines. At some period of the disease there is usually fever. This may vary from almost normal to 103° F. There may be periods of fever alternating with periods without fever. Sooner or later, there is severe anæmia This is of the secondary type. Nucleated red blood corpuscles are rarely seen. The white blood corpuscles are, as a rule, increased, and vary from 10,000 to 20,000. In some cases, there is an increase in the number of the small mononuclear cells. In the early stage of the disease, it is very difficult to make a diagnosis between Hodgkin's diseases and tuberculous adenitis.

Medicinal and surgical treatment so far has not been successful. Dr. Senn has spoken highly of the use of x-rays.

From recent studies on the disease by Fischer, Reed, Simmons and Longcope, the following conclusions may be drawn :—

1. Hodgkin's disease should be considered as a distinct clinical and pathological entity.

2. The lesions in the lymph glands and other organs are especially characterized by the early increase in the lymphadenoid tissue, with later proliferation of endothelioid cells, formation of uninuclear and

multinuclear giant cells, thickening of the reticulum, and final overgrowth of connective tissue. Eosinophiles are frequently found in great abundance. The eosinophilic leucocytes and myelocytes of the bone-marrow are increased.

In process of time, if the laceration be severe, the uterine wall at

EFFECTS OF CERVICAL LACERATIONS.

this part is apt to become specially thin and yielding, and on paring it, as in the operation of trachelorraphy, it may be found that the uterine wall here is thinner and narrower than at any other part. This interferes with the permanent strength of the uterus on the side affected, and with the perfect success of any operation.

If we now recapitulate the consequences of laceration we find, first that those of minor degree have no consequences; and second, that those of major degree, in addition to being a favorite channel of fatal sepsis, may cause subinvolution, serious menorrhagia, uterine descent and flexion (by reason of the injury to the vaguial roof), cervicitis, with all its consequences, pain usually, directly referable to it, abortion, sterility, atrophy of the uterine wall at the highest limit of the tear, and finally, but very rarely, epithelioma.

AN URGENT NEED IN THE MEDICAL PROFESSION.

There are many associations for the study of disease, the reading of papers, and the holding of discussions, but there is no association for business purposes. The various trades are united for the object of taking care of their interests. Capitalists are organized to study what had best be done in times of danger, or when special care is required. Bankers have their associations to look into the conditions of the monetary affairs of the country. Doctors have associations only for the study of the cure and prevention of disease. They are unorganized for any business or protective purpose.

This ought not to be so. Steps should be taken to correct this state of affairs. From time to time, legislation comes up that may threaten the welfare of the medical profession; and, yet, there is no machinery in existence to deal with it. There should be a standing and strong organization for mutual defence. The several territorial districts could form such an association and elect officers. These various district associations could be united through some common, central executive, made up of representatives from the various district associations.

In this way, the entire profession could speak as a unit should any circumstance arise that called for intervention, either as objecting to pro-

posed legislation, or seeking needed enactments. There is much work for such a business association. The regulation of hospital practice, the attendance on charity patients for municipalities, the fees that should be charged wealthy corporations, such as railways, insurance companies, and friendly societies, would all be proper subjects for the consideration of such an association.

It may be set down as about correct that the average income of the doctors in Ontario does not fall below $2,000 a year. This would give a total of $7,000,000 for the 3,500 doctors of Ontario. On an average it may also be assumed that doctors give at least 10 per cent. of their time to charity work. This would represent about $700,000, as the contribution of the doctors of Ontario towards the general public good. Very much of this should not be given free.

An effort is now on foot for the formation of such an association in Toronto. At a recent meeting, Dr. A. A Macdonald was asked to act as chairman of a committee which he is to select. This committee is to formulate a scheme for the organization of a business medical association. We take much pleasure in urging upon the members of the profession to support any efforts that may be put forth in this direction.

ACTION AGAINST A BOARD OF HEALTH BEFORE FALCONBRIDGE, C. J.

Ward *v.* Lowthian; Green *v.* Marr. Judgment (H.) in action tried without a jury at Chatham. Action for damages for alleged injuries to plaintiffs' persons and businesses by reason of proceedings taken by defendants as members of a local Board of Health to prevent the spread of infectious diseases. Held, that defendants were not influenced by malice or improper motives, but acted to the best of their judgment in the interest of the public safety, and without any intention of injuring plaintiffs or any of them. Defendants were bound to use, and did use, all possible care in preventing the spread of infection. They found themselves suddenly, and without previous experience, face to face with a great public exigency, and they adopted all the means which, in their judgment, were most effectual for the common safety. The results were highly satisfactory, so far as concerned the community, although there were cases of individual hardship. If plaintiffs had any reasonable cause of complaint, these arose from error of judgment on the part of defendants or some of them. Defendants, acting in good faith and with reasonable precaution, ought not to be held liable for errors in judgment. The question as to the right to maintain an action such as the present

against a board of health is being considered elsewhere. Action dismissed with costs. M. Wilson, K.C., and W. A. F. Campbell (Ridgetown), for plaintiffs; W. Mills (Ridgetown), and O. K. Watson (Ridgetown), for defendants.

REPORT OF THE EXECUTIVE HEALTH OFFICERS OF ONTARIO.

The report of the eighteenth annual meeting of the above Association has been issued by the Ontario Government. We think the government has acted wisely in authorizing the printing of this report and we hope it may have a wide distribution. The subjects taken up in this report are quite varied, such as the health officer, the suppression of epidemics, the use of serums in diphtheria and scarlet fever, isolation hospitals, the rights of the individual as regards quarantine, military instructions in schools, sanitation in factories, the management of the criminal, the disposal of sewage, and vaccination. We hope that the profession will give this report a careful perusal.

CHANGE OF OPINION REGARDING TUBERCULOSIS.

At a meeting of the Insurance Institute of Toronto, Dr. John L. Davison read a paper on tuberculosis. He pointed out that 12 per cent of all deaths was due to this disease, whereas among selected lives the rate was only 8 per cent. Dr. Davison thought the government should insist upon isolation and disinfection. He thought we could not for some time hope for legislation that would regulate marriages. He expressed the opinion that life insurance offices might send out literature giving plain instructions to their policyholders as to the best methods of avoiding infection.

TORONTO MEDICAL STUDENTS SEE SMALLPOX.

Much of the trouble with regard to the spread of smallpox arises from the fact that many physcians have never seen the disease; and, consequently, may not at once recognize the disease in its milder forms. Infection in this way is allowed to spread.

Dr. Sheard took sixty medical students to study a case of smallpox in the Isolation Hospital. Every precaution was taken to safeguard both the students and the public. The students wore rubber bathing caps and linen dusters. Before leaving the hospital they all took a carbolic bath. They were also vaccinated some time before and its successful nature determined.

The incubation period passed by without any member of the class, or any person in the public contracting the disease as a result of the exposure. This is what happens often in large European cities. Doctors and nurses in large numbers look after smallpox patients without contracting the disease, their sole protection being efficient vaccination. This sort of thing puts to route all the arguments of the anti-vaccinationists.

Without vaccination there would be an epidemic of smallpox every few years among the children. Just think of the death loss, sickness, scarring and interference with business such epidemics would cause, and go set against all this, the trifling inconvenience from vaccination! There are some people who can neither be coaxed nor reasoned with, they must be driven; and such are the anti-vaccinationists.

PERSONAL NEWS ITEMS,

Dr. G. L. Milne, of Victoria, B.C., was in Toronto a short time ago.

Dr. Jamieson, late of Collingwood, has begun practising in Beeton.

Dr. J. H. C. Willoughby, of Saskatoon, is home again from his trip east.

Dr. G. S. Richardson, of Newmarket, has recovered from his recent illness.

Dr. E. D. Dyer, of Knowlton, has removed to Sutton and will practice there.

Dr. James Fletcher, of Ottawa, was laid up for a couple of weeks with an attack of rheumatism.

Dr. E. F. Irwin, of Weston, has recovered from his illness and is again attending to his practice.

Dr. Moyer, of Galt, has been ill for some time with typhoid fever. We wish him a speedy recovery.

Dr. C. H. Brown, of Ottawa, who had a knee injured accidentally a few days ago, is recruiting nicely.

Dr. S. A. McKeague, late of Acton, Ont., has opened an office in Winnipeg at 360 Notre Dame Avenue.

Dr. J. F. Harty, of Kingston, left by the Steamer Princess Irene, a few weeks ago for the Mediterranean.

Dr. George A. Hetherington, of St. John, N. B., arrived in Toronto from the east in the early part of March.

Dr. Mader, of Halifax, while driving in his sleigh, was thrown out and had his leg and several ribs broken.

Dr. Tatham, of Cargill, who was very ill with appendicitis for two weeks, we are pleased to report, is much better.

Dr. Oscar C. Dorman, formerly of Amherst, but lately of Hantsport, N. S., has gone to Winnipeg where he intends locating.

Dr. W. R. Hamilton, who is confined to the Hospital in Stratford with typhoid fever, is reported to be progressing favorably.

Dr. D. M. Sutherland, of Norwich, left on Monday for Collingwood where he will reside for a short time and practice his profession.

Dr. J. O. Camirand, of Sherbrooke, Que, who has been confined to the house suffering from blood poisoning, is able to be out again.

Dr. Geo. S. Burt was attending the New York Hospitals for a couple of months and has again resumed his practice at Own Sound.

Dr. E. S. Pettit-Roberts, formerly of Aylmer, has gone to South Africa to join her husband who is a civil engineer at Johannesburg.

Dr. and Mrs. George A. Brown, 1008 Dorchester street, sailed the 3rd of February for Europe, and will be absent till about the middle of May.

Dr. Beck's many friends will be pleased to learn that he is greatly improved in health as a result of his treatment at the Gravenhurst sanitarium.

Dr. Robert Bell, of Ottawa, was entertained by prominent citizens at dinner at the Garrison Club, Quebec. Dr. Bell afterwards visited Toronto.

Dr. A. A. Staley, of Kingston, a graduate of Queen's Medical class of 1903, has been appointed house surgeon in Hannemann Hospital, Rochester, N. Y.

The marriage of Dr. A. E. W. Snyder, of Cookshire, and Miss Lydia Wilson, took place 24th February. Dr. Snyder has gone to Battleford, N. W. T., to reside.

Dr. O'Reilly, of Guelph, had an attack of grip and bronchitis in the latter part of February and took a short holiday. Dr. Savage took charge of his practice.

Dr. G. W. Jolicoeur has been officially appointed by the Provincial Government coroner for the city and district of Quebec, to succeed the late lamented Dr. A. G. Belleau.

Dr. Gibson, who has removed to Copper Cliff from the Sault, was presented before leaving with a handsome solid silver service by a number of friends at the latter place.

Dr. L. Johnstone, of Sydney, met with a painful accident a couple of weeks ago, injuring his ankle, as a result of falling on the ice. He is confined to his home since the accident.

Dr. C. H. Christie, of Montreal, left London on 12th March, for Japan, having secured the appointment as surgeon on the British ship Prometheus of the far eastern squadron.

Dr. A. D. McInnes, of Toronto, was visiting friends in the coast cities, returned from a trip to New Westminster and Fraser River points, and was registered at the Vancouver.

The marriage took place recently at St. Patrick's Church, Montreal, of Miss Estelle La Chance, eldest daughter of Mr. F. X. La Chance, to Dr. A. A. Macdonald, Mt. Stewart, P. E. I.

Dr. and Mrs. H. A. Wilson, Glencoe, sailed 9th March from New York for the Holy Land on the eighty days' excursion. If all goes well they expected to reach Gibraltar by the 18th.

Dr. McCormick, wife and son, arrived in Harrow, Essex County, on 16th March, after an extended visit in Europe, during which they visited Paris, North of Ireland and Scotland.

Dr. E. McEwen, of Carleton Place, left for New York, last Thursday to take a post-graduate course in the large hospitals of the city, with ear, eye, nose and throat as his special study.

Dr. S. W. Prowse, of Winnipeg left a short time ago for New York, where he will remain some time. Dr. McKinty will lecture on physiology at the Manitoba Medical College in his absence.

The marriage of Dr. A. E. Snyder, son of Mr. and Mrs. N. C. Snyder, took place at Lake Megantic on February 23rd. The bride was Miss Mary Wilson, daughter of Capt. Wilson, of that place.

Dr. J. F. Jelly, of Toronto, was in Fort Frances lately on his way down the river to look up a suitable location with a view of practising medicine. It is possible he may locate at Stratton or Pinewood.

Dr. Bertram, of Dundas, is enjoying his visit in Costa Rica and gaining both in spirits and health. While he is away his practice is being looked after by Dr. Davey, a very clever man in his profession.

Dr. J. T. Fotheringham, of Toronto, while performing an operation contracted septic infection, and was seriously ill. It will be welcome news to his many friends to learn that he is improving satisfactorily.

Dr. Laberge, head physician of the Health Department, Montreal, was confined to the house through illness. Of the four doctors attached to the Health Department three were confined to the house with grippe.

Dr. Cameron, Southampton, N.S., was seriously threatened with blood poisoning from a slight scratch in the hand. His brother took charge of the doctor's patients for a little till he was able to resume his duties.

Dr. R. A. Sykes and wife, of Campbellford, spent a few days in North Hastings two weeks ago. The doctor is very much improved in health as a result of his rusticating in our northern climate during the past winter.

A large section of British medical men want a Minister of Health, and are urging the raising of a fund to send doctors to Parliament to give attention to the nation's health, food and physical culture. Sir Frederick Treves is suggested as Minister.

L. Z. Skinner, M. D., and his sister, Dr. Edna Skinner, formely of Waterville, Kings County N. S. are taking post graduate courses at the College of Medicine of the University of Illinois, Chicago. They have recently been appointed demonstrators in the anatomical laboratory.

Dr. W. Doan, of Harrietsville, who is very popular in social and fraternal matters, as well as professionally, was presented with a handsome gold Masonic Past Master's Jewel recently, accompanied by an address expressive of the esteem in which he is held by the members of the fraternity.

The Canadian Government has formerly accepted the invitation to be represented at the American congress on tuberculosis, which will be held in connection with the St. Louis Exhibition, in October, 1904, and the Canadian Parliament will be asked to provide for the expense of such representation.

Dr. LeBel, of Quebec City, met with a painful accident three weeks ago. He was driving along St. Paul Street and extended his head over the side of the sleigh to take an observation, when his forehead suddenly came in contact with a load of merchandise packed in boxes, coming from the opposite direction.

The marriage took place at Elmsdale, N. S., on Monday, 7th March, of Elsie, daughter of Mr. Jacob Miller, of that place, and Dr. Alfred Thompson, of Dawson City, Y. T. The ceremony was performed in the church, which was handsomely decorated for the occassion by the young lady friends of the bride.

Dr. A. H. Anderson, who has been associated with Dr. A. A. McCrimmon, at Rainy River, during the last three months, left last week for Vancouver, en route to Japan. Dr. Anderson has been appointed surgeon with the Japanese army, and the great experience he gained in South Africa will doubtless stand him in good stead.

Dr. A. E. Malloch, of Hamilton, gave a complimentary dinner at Lovering's, March 4th, to Dr. Daniel M. Gordon, Principal of Queen's University, and the graduates of Queen's who reside in that city. About forty guests accepted his invitation, including representatives of Toronto University. Several ladies were in the gathering. Dr. Malloch presided.

At the Woodstock assizes, March 9th, before Mr. Justice Ferguson, Mrs. McPhail failed in her action against Dr. Brownlee for malpractice. She is suffering from a deformity of the ankle, resulting from a fracture, which she says the doctor did not set properly. His Lordship, at the close of the evidence, withdrew the case from the jury and dismissed the action with costs.

Dr. Mitchell, of the Toronto Asylum staff, who has been appointed to take charge of the new asylum for epileptics at Woodstock, left on Tuesday, 14th March, for England to look over the institutions there, preparatory to assuming his new duties. He was tendered a farewell by the staff of the Queen street institution. The affair took the form of a dance, and a very pleasant evening was spent.

Dr. J. A. McLean entertained about twenty of his friends on Monday evening, 29th February, the occasion being the celebration of his thirteenth birthday. The doctor's birthday only comes once every four years, but owing to the change in centuries he has not had one for eight years. During the evening his friends took advantage of the occasion to present him with a handsome cane as a slight token of esteem. A splendid evening was spent with song and speech, all joining in wishing the genial doctor many happy returns of the day.

Calgary is to have a sanitorium for the treatment of pulmonary tuberculosis. Plans for the erection of a building for this purpose have been completed by Geo M. Lang, the well known architect of that city, for Dr. Ernest Wills. The plans show a most up-to-date administrative building. Dr. Wills, in order that his sanitorium should be the most improved in America, has visited a large number of similar institutions, in England and the United States. From all these he has adopted the best points and as a result the sanatorium to be erected will be the most complete in Canada and equal to anything in the United States.

OBITUARY.

A. G. BELLEAU, M. D.

Dr. A. G. Belleau, district coroner for Quebec, who was ill for some time died 9th of March, aged 63 years. Dr. Belleau was a nephew of the late Sir Narcisse Belleau. Lieut.-Governor of the Province of Quebec.

J. C. RICHARDSON, M. D.

Dr. John Christopher Richardson, only surviving son of Wm. Richardson, M. D., of Burlington, passed away at his father's residence 25th February, in his 39th year. He leaves a widow and four small children. He had practiced in Burlington for about ten years and was very popular.

W. J. ANDERSON, M. D.

On Thursday evening 25th January, occurred the death of Dr. W. J. Anderson of Smith's Falls, a man widely known throughout that vicinity. The late Dr. Anderson was aged 75 years and had been failing for upwards of a year. He was a son of the late Rev. Joseph Anderson, M. A., (formerly of Heckston) and was born in Ireland, coming to Canada when but two years of age. He graduated in medicine, at Queens University, in 1861 and afterwards practised for two years at Inkerman, when he removed to Smith's Falls where he has since resided continuously with the exception of some five years spent at Winchester Springs. He was warden of Lanark county for the year 1902 and has for many years been a prominent figure in the professional and municipal life of Smith's Falls.

MRS. DANIEL CLARK.

Very general will be the sympathy with Dr. Daniel Clark, Superintendent of the Asylum for Insane in his great bereavement, caused by the death of his wife. Mrs. Clark who was 60 years of age, had been an invalid for over nine years, and had been confined to her bed for some weeks with heart trouble.

J. B. CARRUTHERS, M. D.

Dr. J. B. Carruthers, of North Bay, while driving from a camp at the northern end of the Temiskaming Railway to the terminus, was taken suddenly ill and expired almost immediately, 17th March. Heart trouble was the cause. Always ready at the call of duty, the doctor, though not feeling well, decided to take this heavy trip of some fifty miles. The sad news shocked the town, as he was one of the oldest residents, widely known and universally esteemed. He leaves a wife and six children.

WILLIAM RICHARDSON, M. D.

William Richardson, M. D., passed away, March 14th, after a long illness, at the age of 61 years. In his profession he had been successful

and popular, and had practised in Burlington for over thirty years. He served a number of terms as Reeve, and also held offices in the Masons and Oddfellows. He was Treasurer of the School Board and President of the Public Library. He survived his three children, the last son, Dr. J. C. Richardson, being buried two weeks prior to his own death.

HON. T. R. McINNES, M. D.

Ex-Lieut.-Governor, Dr. McInnes, died on 15th March in Vancouver, B. C., having been suffering with heart trouble. He leaves a widow, two sons, T. S. E. McInnes, barrister, of Vancouver, and W. W. B. McInnes, M.P.P., of Victoria, and one daughter, Mrs. James Wilson, wife of the Superintendent of the C. P. R. Telegraphs on the Pacific division.

Hon. Dr. Thos. Robert McInnes was born at Lake Ainslie, N.S., in November, 1840. He was educated at the Provincial Normal School, Truro, and studied at Harvard Medical School, graduating at Rush Medical College, Chicago, in 1869. He was admitted the same year to the practice of medicine in Ontario, and for some years resided at Dresden, Ont. In 1874 he was elected Reeve of Dresden.

He removed in the same year to New Westminster, B.C., where he enjoyed a lucrative practice, and was Mayor of the city from 1876 to 1878. In the latter year he was elected to represent New Westminster in the House of Commons, and was called to the Senate in 1881. He was appointed Lieut.-Governor of British Columbia in November, 1897. Three years later, June 22, 1900, owing to the complicated conditions of British Columbia politics, he was dismissed by the Dominion Government, at the instance of a petition signed by 25 members of the Provincial Legislature

M. T. BRENNAN, M.D.

Dr. M. T. Brennan, gynecologist of Notre Dame Hospital and a professor of Laval University, died 12th March of grippe and pneumonia. Dr. Brennan was a native of Montreal and a graduate of Laval, with which he was identified as a professor for 14 years. He was connected with Notre Dame Hospital for 22 years. He leaves a wife and five children. Three weeks previously two of his children had died. Dr. Brennan was 42 years of age.

MATTHEW FLETCHER HENEY, M. D.

Dr. M. F. Heney died at Humberstone, Welland County, on the 3rd December, 1903, at the advanced age of 79. He studied medicine in Buffalo, where he graduated in 1850.

DUNCAN FRASER, M.D., M.R.C.S., ENG,

Dr. Fraser, of Lakefield, died recently after a short illness. He was a brother of Dr. D. B. Fraser, of Stratford. He graduated as a Silver Medallist from Trinity Medical School in 1874. He had practised in Lakefield for 20 years and was in his 58th year when he died.

DANIEL H. MUIR, M.D.

Dr. Daniel H. Muir, died at his home, 11th March. He was born in Truro in 1838, and served three terms as mayor of the town. In 1887 he contested Colchester County for the seat in House of Commons but was defeated by four votes.

R. LAMBERT, M.D.

In Windsor, on the 21st January, Dr. Lambert died at the advanced age of 76. He was a graduate of the Medical College in Kingston and Queen's University, and also from Bellevue, N.Y. He came to this country from England while young. He had practised in Windsor for forty years, and was its medical health officer for some years. His wife and three children survive him.

W. G. CHRISTOE, M.D.

At the advanced age of 80, Dr. Christoe, of Flesherton, died after a very brief sickness. A few days prior to his death, he was at the post office for his mail. He was born in the County of Cornwall, England, and came to this country in 1842. He taught for some time and was also for some years in business. In 1865 he graduated from Toronto School of Medicine and Victoria University. He practised for some time in Owen Sound, removing to Flesherton in 1867. He leaves a widow and one daughter, the wife of the Rev. L. W. Thorn, of Flesherton.

ELIAS VERNON, M. D.

One of Hamilton's oldest physicians in the person of Elias Vernon died on the 7th February, 1904. He graduated from Jefferson Medical College, Philadelphia, in 1857. He had practised in Hamilton for forty years. He was a member of the Ontario Medical Council for a number of years.

BOOK REVIEWS.

AIDS TO SURGERY.

Aids to Surgery. By Joseph Cunning, M.B., B.S., F.R.C.S., Eng., Senior Resident Medical Officer Royal Free Hospital London: Bailliere, Tindall & Cox: Toronto: J. A. Carveth and Co. Price $1.25.

Most medical practitioners are familiar with the aid series of Messrs. Bailliere, Tindall & Cox. The present volume of the series is on surgery. The author states in his preface that "Surgery can only be learned in the wards." This is correct. His object in this little book is to give the reader the essential points in surgery in a condensed form for ready reference. The work is based upon Rose and Carless surgery. The book before us is well arranged, written in a clear style, and gives a thorough resumé of surgery. It is an admirable work for a student to refresh his memory by prior to his examinations. For this purpose we can highly recommend the book.

TRANSACTIONS OF THE AMERICAN DERMATOLOGICAL ASSOCIATION.

Twenty-Third Annual Meeting held in Washington, May 12th, 13th and 14th, 1903. By Charles J. White, M.D., Secretary, Boston. From the Grafton Press, New York.

This report consists of over 200 pages. There are 18 papers and some cases. The report is well illustrated with a number of full-page plates. To those who take an interest in dermatology there is much useful matter in this annual volume. All the papers are of a high standard, and covers the subjects of teaching dermatology, glanders, hysterical neurosis, bullous dermatitis, sarcomatosis cutis, fragilitas crinium, x-rays in dermatology, syphihis, leprosy, dermnatitis venenata, gangrene, angioma, phototherapy, precancerous keratosis, paludides, etc.

ARE WE TO HAVE A UNITED MEDICAL PROFESSION?

Dr. Chas. S. Mack, of Laport, Indiana, essays in a little brochure of 44 pages to prove the merits of homœopathy and the universality of what he calls the law of similia similibus curantur. We have read his pages and are bound to state that he does not make good his contention. Indeed, the entire science of medicine is against his contention. We will only give one of his arguments. A boy of rough habits is compelled to change his way. This is not homœopathic treatment or cure. But the same boy sees another boy acting in a rough manner, and concludes that it is wrong. He thereupon changes his conduct. This the author claims to be a change from within, and is homœopathic, or similia similibus curantur. The rest we toss with one hoist over the mountains of the moon to the land of folly and moonshine.

MORROW ON SOCIAL DISEASES.

The Relation of Social Diseases and Marriage. By PRINCE A. MORROW, A. M., M. D., Emeritus Professor of Genito-Urinary Diseases in the University and Bellevue Hospital Medical College; Surgeon to the City Hospital; Consulting Dermatologist to St. Vincent's Hospital, etc,, New York. In one octavo volume of 390 pages. Cloth, $3.00, net. New York and Philadelphia: Lea Brothers & Co., Publishers, 1904.

The importance and practical value of this new and timely volume, written by a man of profound learning, long experience and sound common sense, upon a subject which so vitally concerns mankind individually and collectively, ensures its wide recognition.

Venereal diseases in their origin, and especially in their far-reaching pathological effects, strike at the very root of race perpetuation They blight the mental, moral and physical welfare of society as does no other agency. War, pestilence and famine are temporary; venereal diseases constantly ravage all grades of society.

Since unlawful relations between the sexes have come to be known generally as "The Social Evil," the author has adopted the term "Social Diseases" to indicate the infections most usually thus acquired. Their frequent infliction upon innocent victims through legitimate marital relations involves consequences which affect not only the health, but the peace, honor and happiness of the entire family, and the importance of venereal prophylaxis is beyond words.

Heretofore no comprehensive treatise upon the subject has existed in our language, and it is fortunate for the profession and laity alike that an author of Dr. Morrow's achievements and established ability is the first to enter the field.

The work sets forth clearly the dangers introduced by venereal diseases into marriage—dangers to the wife, dangers to the off spring, and dangers which come from their morbid irradiations in family and social life. The fulfilment of the protective duty which has for its object the preservation of the helpless and innocent from infection, realizes the highest ideals of preventive medicine; and, while this duty devolves especially upon the physician, every member of the community is, and should be, the protector of the wife and mother and the preserver of the health and welfare of future generations.

Not the least interesting chapter presents the author's views upon the "Medical Secret" and the exercises of professional discretion in restraining improper marriages, and gives valuable hints for the physician's guidance in many of the involved questions which so frequently arise.

In dealing with these situations there is required not only a thorough knowledge of these diseases in all their recently revealed relations, but also a knowledge of human nature. and a professional sagacity which is not taught in the curricula of the medical schools.

It is to furnish just this knowledge that this book has been written, and its perusal, in fact, its study, may well be recommended not only to every physician, but to every thoughtful adult.

HOW TO SUCCEED AS A PHYSICIAN.

Heart to Heart Talks of a Successful Physician With His Brother Practictioners. Meriden, Conn. : The Church Publishing Company. Price 50cts., Cloth.

This is a neat little book of 125 pages. It contains a great deal of interesting matter under the headings : The Legal and Clerical Professions, Physicians and their Incomes, Quacks and Quackery, Patent Medicines, Why the Profession is Overcrowded, The Requirements of a Successful Physician, Nature *versus* Drugs, To be Successful the Physician must be a good Diagnostician, The Physician should be a Gentleman, Physicians Fees, and Specialists and Specialism. This little book is a most interesting one. It would be a good thing if it were generally read. It would make very useful reading for the intending medical student. Its pages would correct effectually the idea that once through the portals and qualified to practice, the young doctor has entered a veritable Eldorada.

DR. DAVIS ON THE CURE OF CONSUMPTION.

The Self-Cure of Consumption, Without Medicine, With a Chapter on the Prevention of Consumption and other Diseases : By Chas. H. Stanley Davis, M. D., Ph. D., Member of the Connecticut State Medical Society ; Physician to the Curtis Home for Old Ladies and Children. New York : E. B. Treat & Company, 1904. Price, 75cts.

Within the past few years, there has been written an immense amount upon the subject of tubercolosis ; and one would wonder why another book should appear upon the subject. The author of this little volume has justified its appearance, by collecting into it a great deal of useful information on the subject of consumption. Much attention is given to the prevalence of the disease, and to the means for its prevention. The author states that 150,000 die of consumption annually in the United States ; and this through a preventable disease. We trust the book will secure a wide sale, as there is no subject before the profession to-day of greater importance than that of tuberculosis.

A TEXT-BOOK OF LEGAL MEDICINE AND TOXICOLOGY.

A Text-Book of Legal Medicine and Toxicology. Edited by Frederick Peterson, M. D. Chief of Clinic, Nervous Department of the College of Physicians and Surgeons, New York; and Walter S. Haines, M. D., Professor of Chemistry, Pharmacy, and Toxicology, Rush Medical College, in affiliation with the University of Chicago. Two imperial octavo volumes of about 750 pages each, fully illustrated. Philadelphia, New York, London: W. B. Saunders & Company, 1903. Canadian Agents: J. A. Carveth & Co., Limited, 413 Parliament St., Toronto. Per volume: Cloth, $5.00 net; Sheep or Half Morocco, $6.00 net.

This work presents to the medical and legal professions a comprehensive survey of forensic medicine and toxicology in moderate compass.

For convenience of reference the treatise has been divided into two sections, Part I and Part II, the latter being devoted to Toxicology and all other portions of Legal Medicine in which laboratory investigation is an essential feature. Under "Expert Evidence" not only is advice given to medical experts, but suggestions are also made to attorneys as to the best methods of obtaining the desired information from the witness. The Bertillon and Greenleaf-Smart systems of identification are concisely and intelligently described, and the advantages of each stated. An interesting and important chapter is that on "The Destruction and Attempted Destruction of the Human Body by Fire and Chemicals;" for on the determination of the human or animal source of the remains frequently depends the legal conduct of a given case, and the guilt or innocence of the accused. A chapter not usually found in works on Legal Medicine, though of far more than passing significance to both the medical expert and the attorney, is that on the medicolegal relations of the X-Rays. The responsibility of pharmacists in the compounding of prescriptions, in the selling of poisons, in substituting drugs other than those prescribed, etc., furnishes a chapter of the greatest interest to everyone concerned with questions of medical jurisprudence. Also included in the work is the enumeration of the laws of the various States relating to the commitment and retention of the insane. In fact, the entire work is overflowing with matters of the utmost importance, and expresses clearly, concisely, and accurately the very latest opinions on all branches of forensic medicine and toxicology. The first volume was reviewed in our issue for July, 1903. On that occasion we had much pleasure in speaking highly of the work The completed work is one of distinct merit. After a most careful perusal of these volumes, and frequently referring to their pages for information, we can say that they are complete in every respect and thoroughly trustworthy.

THE TREATMENT OF FRACTURES.

The Treatment of Fractures: With Notes Upon a Few Common Dislocations. By Chas. L. Scudder, M. D., Surgeon to the Massachusetts General Hospital. Fourth Edition, Thoroughly Revised, Enlarged, and Reset. Octavo volume of 534 pages, with nearly 700 original illustrations. Philadelphia, New York, London: W. B. Saunders & Company, 1903. Canadian Agents: J. A. Carveth & Co., Limited, 413 Parliament St., Toronto. Polished Buckram, $5.00 net; Sheep or Half Morocco, $6 00 net.

Four large editions of this work in less than four years testify to its value. The book is intended to serve as a guide to the practitioner and student in the treatment of fractures of bones. The student sees the actual conditions as they exist in fractured bones, and is encouraged to determine for himself how to meet the conditions found in each individual case. Methods of treatment are described in minute detail, and the reader is not only told, but is *shown* how to apply apparatus, for as far as possible, all the details are illustrated. This elaborate and complete series of illustrations constitute a feature of the book. There are 688 of them, all from new and original drawings and reproduced in the highest style of art. Several chapters of special importance are those on Gunshot Fractures of Bone; The Röntgen Rays and Its Relation to Fractures; The Employment of Plaster-of-Paris, and the Ambulatory Treatment of Fractures.

In this fourth edition many new illustrations have been added, thus increasing the accuracy of this part of the work. The text has been thoroughly revised, thereby bringing the book absolutely abreast the times. X-ray plates of the epiphyses at different ages have been arranged. These will be found of value not only as an anatomical study but in the appreciation of epiphyseal lesions. An important addition is that of a chapter upon a few Common Dislocations. This chapter, like the rest of the book, is amply illustrated, and the accepted methods of treatment described.

PATHOGENIC MICROBES.

The Pathogenic Microbes: By M. Le Dr. P. Jousset, Physician to the Hospital Saint-Jackes; Former Interne Laureat of the Hospitals of Paris; Director of the Laboratory of Bacteriology of the Hospital Saint-Jackes. Authorized translation of Horace P. Holmes, M. D. Philadelphia; Boericke & Tafel, 1903.

This small volume of 200 pages is full of matter and original thoughts upon Pathogenic Bacteria. It is quite impossible to convey an idea of the extent of ground covered by the author. He has the happy faculty of being both concise and clear. He holds that in all the infectious diseases the germ of the disease is a *sine qua non*. He also

makes it very clear that under certain conditions pathogenic bacteria become true suprophytes and cease to possess disease-producing powers. Another point brought out in the work is that some bacteria, quite harmless under certain conditions, become virulently pathogenic under other conditions. Of this fact typhoid fever epidemics are cited. The book is worthy careful study.

SYDNEY MARTIN'S GENERAL PATHOLOGY.

A Manual of General Pathology for Students. By Sydney Martin, M.D., F.R.S., F.R.C.P.; Professor of Pathology at University College; Physician to University College Hospital, London. With numerous Wood Cuts from Micro-photographs and other illustrations, including many in Colors. Philadelphia: P. Blakiston's Son & Co. Toronto: Messrs. Chandler & Massey. 1904. Price, $4.00.

To begin with, this book is got up in the very best style possible. The binding, paper, printing, and illustrations are all that could be desired. For these features the reader will be truly thankful to the publishers.

Those who have read Dr. Martin's numerous contributions know that he is a recognized authority on pathology. Indeed, it would be difficult to think of anyone who is better able to prepare a work on general pathology. With this fact in view, one examines the present volume with no small degree of expectation, and is pleased with the result as he finds that, as his acquaintanceship with its contents increases, his appreciation for it grows. The subjects discussed in the book are: Inflammation, Changes in body Temperature, Infection, Degeneration and Regeneration, Changes in Circulation, Respiration in Disease, Changes in the Blood in Disease, Hemorrhage and Pigmentation, Effects of Disease of the Liver, Effects of Disease of the Kidneys, Effects of Disease of the Ductless Glands, Changes in Metabolism, and Changes in the Nervous System in Disease. This is an excellent arrangement of the subjects of general pathology.

Each section of the work is treated in a very full and thorough manner, and one cannot praise one section over another. At the present day, however, one turns naturally to the portions of the book dealing with infection. Some 150 pages are given to the treatment of infection and immunity, and it is not saying too much to express the opinion that nowhere else can a clearer exposition be obtained.

Taken all in all, Dr. Martin's work on general pathology is one that can be recommended with great confidence, and is sure to find a large and appreciative circle of readers.

GOWERS' LECTURES ON NERVOUS DISEASES.

Subjective Sensations of Sound and Sight, Abiotrophy, and other Lectures. By Sir William R. Gowers, M.D., F.R.C.P., F.R.S.; Hon. Fellow Royal College Physicians, Ireland; Member of the Society Medicine Russes of St. Petersburg, and of the Royal Society of Science of Upsala, etc. Phildelphia: P. Blakiston's Son & Co. Toronto: Chandler & Massey. 1904. Price, $2.00

There are ten lectures in the present volume. They deal with a wide range of subjects, but are all on topics with which the eminent writer is familiar and is a world-wide authority. These lectures are: Subjective Visual Sensations, Subjective Sensations of Sound, Abiotrophy, Myopathy, Metallic Poisoning, Syphilitic Diseases of the Nervous System, Inevitable Failure, Syringal Hemorrhage into the Spinal Cord, Myasthenia and Ophthalmoplegia, and the Use of Drugs. These lectures are evidences of wide learning and masterly style. To read any one of them is to enjoy a genuine treat. It can be said of Sir W. R. Gowers in the words of Dr. Johnson on Goldsmith, *Nihil quod tetigit non ornavit.* Each of the lectures throws much light upon the topics discussed in it. Nervous diseases are now beginning to take their proper place in the study of disease in general. Knowledge of the relationship of nervous diseases to other diseases, and vice versa, helps to clear up many obscure things in the work of the physician and surgeon. We know of no one else who can deal with an obscure and intricate neurological problem more lucidly than Sir William Gowers. We can recommend this volume of lectures, feeling satisfied that none shall rise from its perusal without much pleasure and profit.

FISCHER—INFANT-FEEDING IN ITS RELATION TO HEALTH AND DISEASE.

A Modern Book on all Methods of Feeding. For Students, Practitioners, and Nurses. By Louis Fischer, M.D., Visiting Physician to the Willard Parker and Riverside Hospitals, of New York City; Attending Physician to the Children's Service of the New York German Poliklinik; Former Instructor in Diseases of Children at the New York Post-Graduate Medical School and Hospital; Fellow of the New York Academy of Medicine, etc. Third Edition, Thoroughly Revised and Largely Re-written. Containing 54 Illustrations, with 24 Charts and Tables, mostly original. 357 pages, 5¾ by 8¾ inches. Neatly bound in Extra Cloth. Price $2.00 net. F. A. Davis Company, Publishers, 1914-16 Cherry Street, Philadelphia, Pa.

For the general practitioner there is no more important question than that of infant feeding. A reliable book on this subject is indispensable. Dr. Fischer has taken great pains to prepare such a book. He speaks both from experience and extensive reading. His book covers the subject very thoroughly, and is full of excellent advice and formulae for foods. With such a book in one's library, much of the difficulty of infant feeding vanishes. We predict for the book a large sale.

FOOD FOR THE TROPICS.

A Short Description of Native Produce suitable for Food in Tropical Countries. By T. M. MacKnight. London: W. Thacker & Co., 2 Creed Lane, E.C.; Calcutta: Thacker, Spink & Co.; Bombay: Thacker & Co. 1904. Price 3s. 6d. net.

This is a most useful and instructive little book. It gives a careful accounts of the tropics. These products are classified under the headings: bread vegetables, potato vegetables, the meat vegetables, the butter vegetables, vegetables, sugars, fruits, beverages, condiments, etc. An interesting account is given of the mode of cultivation and preparation of these foods.

HOWE'S HAND-BOOK OF PARLIAMENTARY USAGE.

This little book is intended to be a quick and reliable guide to the conduct of public meetings. The book is so arranged, that when it is opened at the middle, there is before the eye a complete index to its contents. Under each heading are given all the rules. For example, when the book is opened as stated, and you wish to find out the rules governing the subject "To Re-consider," you look down the page for the positive status, and on the reverse page for the negative status. The author, Mr. Frank William Howe, has shown much skill in the arrangement of the subjects. The publishers are Messrs. Hinds & Noble, 31, 33, 35 West 15th Street, New York City. Price 50c. In strong cloth binding.

FOX'S DISEASES OF THE EYE.

Diseases of the Eye, by L. Webster Fox, A.M., M.D., Professor of Ophthalmology in the Medico-Chirurgical College of Philadelphia, Pa.; Ophthalmic Surgeon in the Medico-Chirurgical College Hospital. With five colored plates and two hundred and ninety-six illustrations in the text. New York and London: D. Appleton & Co.; Toronto: N. Morang & Co. 1904. Price, $4.00.

Dr. Webster Fox has produced a text book on the diseases of the eye, which is refreshingly original and modern. In no branch of medicine is there a greater production of volumes, the great majority of which are but repetitions of works by others and which are re-written for reasons best known to the authors. Dr. Fox's book contains many new illustrations, some in color, drawn from cases in the practice of the author. Among the original matter are descriptions of the author's operating table, operations for strabismus (divergent), ptosis, ectropion, treatment for dacryo-cystitits, conical cornea, transplantation of pterygium, also his localiser. The typography, paper and general get up are creditable to the publishers. We can heartily recommend the work as clear, concise, and thoroughly up-to-date.

Aseptic and Antiseptic Preparations and The Treatment of Emergencies after Abdominal Surgical Operations. By George Walkerhagen, M.D., Ex-President Brooklyn Surgical Society; formerly Consulting Surgeon, Norwegian Hospital, etc., etc. New York: E. R. Pelton, 1904. Price, $1.00.

This book contains many excellent suggestions. For those who do abdominal surgery its pages will be found interesting. It would also prove of much service to a surgical dresser or nurse. We can recommend the book.

PROGRESSIVE MEDICINE VOL. I, MARCH, 1904.

A Quarterly Digest of Advances, Discoveries and Improvements in the Medical and Surgical Sciences. Edited by Hobart Amory Hare, M. D., Professor of Therapeutics and Materia Medica in the Jefferson Medical College of Philadelphia. Octavo, 337 pages, 7 illustrations. Per annum, in four cloth-bound volumes, $9.00; in paper binding, $6.00, carriage paid to any address. Lea Brothers & Co., Publishers, Philadelphia and New York.

No worker in medical or allied fields, whether he be specialist or general practitioner, whether his province be pure science, or applied surgery or medicine, can fail to find this series of the greatest service. The man of note who is preparing a paper will find here the modern references with digests of the articles he requires to make his bibliography complete, and the plain, every-day doctor puzzled by an obstinate case can instantly refer to the methods of diagnosis and treatment employed to-day by the most eminent specialists of the world.

It cannot be too much emphasized that this is not a mere collection of miscellaneous abstracts and translations gathered at random, but is a strictly original work in which men of international reputation have written, in monograph form, the advances that are being made in their respective departments, giving references to the original articles with careful digests, and in the light of their own experience and judgment selecting the wheat from the chaff, correlating results from different quarters of the globe, adjusting apparently contradictory observations, and everywhere indicating how and why and where progress has been made. The scope of the present volume includes extensive essays on such important and essentially progressive subjects as cerebral pressure, heart surgery, the treatment of tic douloureux, exophthalmic goitre, the transmission of disease by insects, the theories as to the etiology of rheumatism, tetanus, paratyphoid, modern views on the nature of hay fever, etc., in which the latest work of foreign and domestic observers is fully discussed.

Considered from every point of view, that of authoritativeness, completeness, adaptation to practical needs, agreeable style, availability for reference, convenient form, satisfactory press work, telling illustrations, and marvellously low price, the work is one that the medical profession may well be proud and grateful to possess.

ATLAS AND EPITOME OF OPERATIVE GYNECOLOGY.

By Dr. O. Schæffer, of Heidelberg. Edited with additions, by J. Clarence Webster, M. D. (Edin.), F. R. C. P. E., Professor of Obstetrics and Gynecology in Rush Medical College, in affiliation with the University of Chicago. With 42 lithographic plates in colors, many text cuts, a number in colors, and 138 pages of text. Philadelphia, New York, London: W. B. Saunders & Company, 1904. Canadian Agents: J. A. Carveth & Co., Limited, 434 Yonge Street, Toronto. Cloth, $3.00 net.

This new addition to Saunders' admirable series of Hand-Atlases is excellent. It is unfortunate that medical students graduating each year know less about gynecologic operations than about almost any other department of operative surgery. This atlas, therefore, is opportune, and the excellence of the lithographic plates and the many other illustrations render it of the greatest value in obtaining a sound and practical knowledge of operative gynecology. Indeed, the artist, the author, and the lithographer have evidently expended much patient endeavor in the preparation of the water-colors and drawings. They are based on hundreds of photographs taken from nature and reproduce faithfully and instructively the various situations which they intend to illustrate. The text closely follows the illustrations, and we have found it fully as accurate. We consider it of great value to the up-to-date practitioner and surgeon, as well as the specialist.

OBSTETRICS FOR NURSES.

By Joseph B. DeLee, M. D., Professor of Obstetrics in the Northwestern Medical School, Chicago; Lecturer in the Nurses' Training Schools of Mercy, Wesley, Provident, Cook County, and Chicago Lying-in Hospitals. 12 mo of 460 pages, fully illustrated. Philadelphia, New York, London: W. B. Saunders & Company, 1904. Canadian Agents: J. A. Carveth & Co., Limited, 434 Yonge Street, Toronto. Cloth, $2.50 net.

Although this work was written, as the author states, primarily for nurses, yet from our interesting examination of it, we firmly believe that medical students will find in it much of value, since the duties of a nurse often devolve upon him in the early years of his obstetric practice. There are really two subjects considered—obstetrics for nurses and the actual obstetric nursing—and Dr. De Lee has combined them so that the relations of one to the other are natural and mutually helpful, presenting this important branch of medicine in a clear and interesting form. The illustrations have not been borrowed from any other works, as is too frequently the case, but have been made expressly for this book. The photographs were taken by the author from actual scenes, and are true to life in every respect. The text is the outgrowth of eight years' experience in lecturing to the nurses of five different training schools.

GOULDS' BIOGRAPHIC CLINICS.

Biographic Clinics. Volume II. The origin of the Ill Health of George Eliot, George Henry Leurs, Wagner, Parkman, Jane Welch Carlyle, Spencer, Whittier, Margaret Fuller Ossoli, and Nietzsche. By George M. Gould, M.D., Philadelphia: P. Blakiston's Son & Company, Toronto: Chandler and Massey, Price, Cloth $1.00.

Some time ago, we received Dr. Gould's first volume dealing with the ill health of Huxley, Browning, Carlyle, Darwin, and DeQuincy. On that occasion we mentioned that the work Dr. Gould had done in the biopofbic clinic field was a substantial gain to medicine. The greatest progress in science, religion, and civilization has been accomplished by enthusiastics. Whether all that Dr. Gould contends for will ultimately be accepted by the profession is a matter of small moment compared with the fact that he has so forcibly and ably directed attention to a much neglected subject judged by what is now known of the effects of eyestrain, we think that Dr. Gould has made out a strong case for the position he takes. Indeed, it is within the knowledge of most proctitioners to have met with such cases where proper correction of the errors of refraction effected remarkable relief from symptoms very similar to those of the celebrities studied by Dr. Gould. We can most heartily recommend these two volumes to our readers, and extend our congratulations to the distinguished author. The book is handsomely got up.

Aseptic and Antiseptic Preparations and Treatment of Emergencies after Abdominal Surgical Operations. By George Walkerhagen, M.D., Ex-President Brooklyn Surgical Society, formerly visiting surgeon Norwegian Hospital, &c., &c. New York: E. R. Pelton, 19 East 16th street. Price, Cloth, $1.00.

In this little book of 45 pages, the author gives the general principles of aseptic surgery and the treatment of some of the more important complications, such as shock, tyruparutes, peritonitis, haemorrhage, vomiting, obstruction. The book will be found very useful for those doing abdominal surgery, or for nurses having abdominal section cases under their charge.

The old established firm of J. G. Ingram & Son, The London India Rubber Works, London, England, whose goods are well known all over the world, makers of surgical and india rubber goods, etc., with the idea of pushing their products in Canada have appointed Messrs. J. Judd, Mason and Brother, of Hamilton, as their agents.

VON BERGMANN'S SURGERY.

A system of practical Surgery. By Drs. E. von Bergmann, of Berlin, P. von Bruns of Tübingen and J. Mikulicz, of Breslau. Edited by William T. Bull, M.D., Professor of Surgery in the College of Physicians and Surgeons (Columbia University) New York. To be complete in five Imperial Octavo volumes, containing over 4000 pages, 1600 engravings and 110 full-page plates in colors and monochrome. Sold by subscription only. Per volume, cloth, $6.00; leather, $7.00; half morrocco, $8.50 net. Volume I just ready. 936 pages, 361 engravings, 18 plates.

This System of Surgery by von Bergmann, von Bruns and von Mikulicz, is, without doubt, the most important work on the subject that has recently appeared. Its first edition in the original, met with such a demand that the earlier volumes were out of print before the later ones were ready for issue. The second edition, carefully revised and brought thoroughly up to date, is the basis of the present English translation. The work has been done by Dr. William T. Bull and his collaborators with great fidelity and thoroughness. They have brought to their work not only enthusiasm and industrious effort but also a wide surgical experience, enabling them to add judicious references to methods of practice which have gained the preference of English and American surgeons. The number of illustrations in this translation greatly exceeds those found in the original—a feature, which without doubt, will much enhance the value and add to the interest of the text.

The work is encyclopedic in character. Many of its chapters exceed in scope and detail special treatises which have been published on their subjects. The great value of the work lies in its practical and clinical character, but there will be found an abundance of pathological data, details of original research and statistical facts, so that there can be no question of the inestimable value of these volumes to the student, the surgeon and the general practitioner. The first volume, which is now ready, covers the following subjects: Injuries and Diseases of the Skull and its Contents; Malformations, Injuries and Diseases of the Ear; of the Face, including Plastic Operations and the Neuralgias of the head; of the Salivary Glands, including Anamolies; of the Jaw; of the Nose and its Adjacent tissues; of the Mouth and of the Pharnyx.

The other volumes of the system will follow in rapid succession.

The entire make-up of the volume reflects the utmost credit upon the publishers. In every detail of book-making the volume before us might well be regarded as perfect.

JULER'S OPHTHALMOLOGY.

Third edition. Revised and enlarged. A handbook of Ophthalmic Science and Practice. For Students and Practitioners. By Henry E. Juler, F.R.C.S., Ophthalmic Surgeon to St. Mary's Hospital; Surgeon to the Royal Westminster Ophthalmic Hospital, London. Octavo, 733 pages, with 190 illustrations and 25 full-page plates in colors and black. Cloth, $5.25, net. Lea Brothers & Co., Publishers. Philadelphia and New York, 1904.

The favor which Dr. Juler's work has so long enjoyed is readily explained by a perusal of its contents.

It is practical from cover to cover, and the author's clear descriptions and concise statements, coupled with telling engravings and colored plates, merit the commendation so freely given.

The volume is very comprehensive, covering every affection of the eye, and it is particularly rich in matters of especial value to the general practitioner, such as questions of diagnosis; directions for the use of instruments; fitting of glasses; testing for color-blindness, imperfection of vision, etc. The sections on treatment are singularly full and satisfactory, and the whole is couched in clear, readily intelligible language.

The new edition shows thorough revision and an increase of about 200 pages in size, with several new plates. As a whole, Juler's work is one of the most satisfactory reference works a physician can have on his shelves, while to the specialist it is almost indispensable.

The publishers have got up the work in excellent style. The paper, type, binding and illustrations are of the best known to the book-making art. He did the American profession a real service in placing before it this Standard work of Dr. Jules.

COMMONER DISEASES OF THE EYE.

How to Detect and How to Treat Them. By Casey A. Wood, C.M.M.D., D.C.L., Professor of Clinical Ophthalmology in the University of Illinois, and Thos. A. Woodruff, M.D., C.M., L.R.C.P., Professor of Ophthalmology in the Chicago Post-Graduate Medical School, Chicago, etc. 250 Illustrations; 7 Colored Plates. 500 pp. 5x8 in. Bound in Green Buckram, Gold Side-title and Top. $1.75 net.

For the man in general practice this is an excellent manual. The author is careful to avoid all padding and useless theory, and gives only what is admitted by the best writers to be good treatment. Time is not wasted in the discussion of obscure subjects, and on the rarer diseases. This enables the author to treat fully the diseases usually met with and, at the same time, keep his book to its present size. We can very cordially recommend this little book.

THE MILITARY MEDICAL SERVICE OF RUSSIA.

Editor to the CANADA LANCET.

SIR,—Last month I contributed an article on the Japanese military medical service and it may be of interest to follow this up by some facts about the military medical service of Russia. It may be stated at the outset that facts relating to the Russian army are not easy to obtain. The American army officer attached to the Russian column during the occupation of Pekin, in 1900, was able to report but little about it. The succeeding facts are derived from an article by Major John Van Rensselar Hoff, U. S. A., in the report of proceedings of the American Association of Military Surgeons, 1895, and to Surgeon-General Longmore's Manual of Ambulance Transport.

The strength of a Russian infantry battalion is 1,000, officers, non-commissioned officers, and men, with two or four battalions to a regiment, about the strength of a British brigade, viz., 4,000. All the non-combatants are grouped into a company, called a non-combatant company. The medical personnel are alloted to the units in proportion to strength, thus in a four battalion infantry regiment there are a senior and four junior surgeons, one senior and twelve junior dressers (called " feldshers), one compounder, fourteen dresser pupils, one hospital sergeant and three hospital orderlies. A cavalry regiment has about 800 men in four squadrons. The medical strength is one senior and one junior surgeon, one vetinarian, six " feldshers," two feldsher pupils and three hospital attendants. The service is essentially regimental, but as the regiments usually correspond in strength with our brigades there is not a very great disparity. The material, tents, etc., of the regimental hospital, accompanies the fighting body and is transported in four medical store carts. There are also four four-horse ambulances and a waggon to carry thirty-two stretchers, two per company. The war strength of a regimental hospital is eighty-four beds. Upon this regimental service is engrafted, in active service, a divisional organization

Military surgeons in Russia have no military rank, but they have a standing of their own in the " chin " or official class. There are no special names for grades. Their standing is really a social or court rank according to the order of precedence. All surgeons are called " vrachi " and they stand in the " chin " from the ninth class, a junior surgeon, to the third class, being the highest medical officer. The highest apothecary ranks with the fifth class. Surgeons in Russia wear a uniform of dark green, the collar and cuffs of the same color, piped with red. The shoulder knots are of silver and smaller than those of combatant rank.

The trowsers are dark green, without stripe and the undress cap of the same colour, with red piping.

The divisional service consists of what is called the "sanitary division" and consists of a bearer company, a divisional ambulance hospital and two "mobile" field hospitals. Longmore states that the personnel of the field hospital consists of eight surgeons, sixteen dressers, fifty orderlies and attendants. The hospital accommodates six officers and 160 men. The bearer company consists of one officer, one sergeant major, six sergeants and 200 bearers. The transport section, of one officer and 108 drivers. There are twenty-four ambulances, an equal number of store waggons, six stretcher carts and two medical store carts.

The "mobile" field hospitals each afford accommodation for ten officers and 200 men. The personnel consists of two surgeons, two other officers (transport), 107 non-commissioned officers and men, four sisters of mercy, fifty-seven horses and twenty-five waggons. Their work, location and movements correspond to the field hospitals of other armies. During a battle these hospitals are established in rear of the line of battle. The divisional hospital ambulance constitutes the dressing station which is located immediately in rear of the fighting line. There are also reserve field hospitals, 240 in number, which in war are established on the lines of communication.

The Russians possess military sanitary convoys, twenty in number, which are mobilized in time of war for the transport of sick and wounded. The strength of each is, one combatant officer in command, two surgeons and ninety-eight men, two sisters of mercy, 137 horses, twenty-seven four-horse ambulances, a kitchen waggon, seven store waggons, and one medical store cart. In time of war the field dispensaries are mobilized. They are intended to supply the divisional and field hospitals with medical stores.

The base hospitals are permanent military hospitals, of which there are eleven in Europe and six in Asia.

The headquarters staff of the medical department of the Russian army consists of one chief surgeon and his assistant, one chief inspector, four principal officials, including an oculist. There is a director-general but it is uncertain whether he is a medical man or not, probably not, as Longmore says that he is assisted in his duties by the chief surgeon. He takes orders from the chief of the general staff and is in immediate communication with the minister for war.

The total strength of the medical department of the Russian army, consists of 2,808 surgeons, 232 pharmacists, 3,804 medical staff, "feldshers," and 3,455 company or regimental "feldshers".

The Russians rely largely on the Red Cross Society for additional help in men and material in time of war. The society is under the immediate patronage of the Empress and is at all times an active organization, in which it differs from the British Society, affording relief from flood, famine, and pestilence, or any great national disaster. It is to be regretted that many important details are wanting in this account of the medical service of Russia, but sufficient has been written to show that they have, on paper at all events, a well organized service, but not very strong numerically. When it is considered that they claim an army of a million men on a peace footing, the medical service seems quite inadequate.

G. STERLING RYERSON,
Colonel, Canadian Army Medical Staff.

MISCELLANEOUS.

EFFICACY OF ANTISEPTICS WITH SPECIAL REFERENCE TO THE MERIT OF GLYCO-THYMOLINE.

By C. H. POWELL, A.M., M.D.
Professor Principles of Medicine and Clinical Medicine, Barnes Medical College, St. Louis, Mo.

EVER since the introduction of Lord Lister's principles to the medical profession physicians have studiously and patiently investigated the many antiseptic agents introduced to their notice from time to time by different pharmaceutical establishments of recognized repute. Some of these preparations have not stood the test, and as a result "have fallen by the wayside." Others in proportion to their merit are filling an appropriate place in the prescription book. Of these there are but a very few indeed, and at the head of them all my experience induces me to place Glyco-Thymoline. This remedy, aside from possessing properties of a most positive nature is handled by the Kress & Owen Company in a most thorough ethical manner. The medical press is selected by this firm to the exclusion of all other mediums in order to keep the Glyco-Thymoline conspicuously before the profession. Not only that, but as a further evidence of the sincerity of the firm in believing their product all that is claimed, a liberal sample is sent any physician who may desire to test Glyco-Thymoline. Without going further into the merits of this solution as an antiseptic possessing decided therapeutic properties, I desire to report a few cases wherein by careful and persistent use this alkaline, alterative solution has given me most excellent results.

Case I. Mrs. M. W., widowed, aged 42, consulted me for nasal difficulty of severa months' standing. An examination of the nasal

fossæ revealed several very interesting conditions. There were grouped together possibly seven or eight foci of ulceration, some of these spots ran together presenting more or less of a serpiginous ulceration. Each ulcer was covered with a dirty gray ash colored exudate which adhered firmly to the underlying schneiderian membrane. I first applied on absorbent cotton, a fifty per cent. solution of peroxide of hydrogen, and having removed the purulent secretion sprayed the nose thoroughly with a twenty-five per cent. solution of Glyco-Thymoline in distilled water. I instructed the patient to report the day following for a renewal of the treatment, and to my surprise found a healthy looking surface in place of a suppurating wound. I repeated the spraying of the nasal fossæ some three or four times more, and complete healing took place, the nose returning to its normal condition within a week's time from the first application.

Case II. Mrs. F. K., married, aged 30, was brought to me for a disturbance of the throat, which owing to the fact of a member of the lady's family having recently died of tubercular disease, was a source of much worry and mental anxiety to both the lady and her husband. The tonsils were somewhat congested and showed upon their surfaces little points of deposit dipping down into the tonsillar crypts. I immediately sprayed the tonsils with a full strength solution of Glyco-Thymoline and at the same time gave the lady a six-ounce bottle fifty per cent. strength to use as a gargle. In three days' time she called to get some more of the solution, which she stated was very prompt in relieving her of her troublesome tickling sensation. Upon inspection I found the throat entirely cleansed of all exudates and the hyperæmic appearance of the tonsils was entirely removed, the gland assuming an almost normal hue. I again sprayed the tonsils with a full strength Glyco-Thymoline and renewed the bottle for her, or rather requested her to have the bottle refilled at the drug store. She called again to see me in a few days, and stated she was entirely relieved of all unpleasant symptoms, and did not think further treatment was necessary. I accordingly dismissed her as cured.

"SULPHAQUA."

"We have examined the packets sent out by this Company for extemporising a sulphur bath. The idea is somewhat novel, decidedly convenient, and thoroughly efficacious.

The heat of the water in which the salts are dissolved induces a chemical inter-action, which will be noticed to take place in the vessels used for solution. A copious precipitate of sulphur is produced, and at

the same time there is a distinct evolution of sulphurous fumes; the sulphur is thus given off in a nascent condition and it appears as an exceedingly fine powder.

The effect upon the bather is peculiarly pleasant: the preducts of chemical inter-action are free from any deleterious or irritating substance; the whole process is easy, interesting, and speedy; the results are delightful, reminding one of the natural, warm, sulphur baths; and we consider the use would be attended with equally beneficial results in cases requiring such treatment, besides the advantages of having Harrowgate or Homburg brought within our own homes. We certainly recommend a trial of Sulphaqua.

This Company also put up packets sufficiently large to make a bath for the face and hands only. It is important to note that no hydrogen sulphide is evolved, and therefore does not blacken the paint of the bath."—*Health* Vol. xxxii., page 271.

SUPPURATING APPENDICITIS OPENING INTO THE BLADDER.

By Dr. Enrique Fortun,
Surgeon of Hospital No. 1, Havana.

JUAN G., a Spanish merchant, 37 years old, with evident syphilitic antecedents, began to suffer about two months ago acute pains in the right iliac pit, while a tumefaction was observed in that region.

He became an inmate of a clinic of this city, where his case was diagnosed as malignant neoplasm, After remaining about 20 days in said clinic, the patient decided to leave for Spain; in the meantime, he stopped at a hotel here. While there he was taken with violent fever and ague, with a temperature of about 41 degrees C., and the first micturition following this attack did show the presence of a great quantity of pus.

Dr. Parra, who was attending the patient, did me the honor to ask me to assist him. I called on him the night after the evacuation of pus had occurred.

The first symptom to which my attention was called upon examination was the dimension and hardness of the liver, with swellings, the massiveness of which continued uninterruptedly in connection with the massiveness of the iliac pit, in which region (the right iliac pit) an accentuated muscular resistance was observed, though that region instead of being swollen presented a depression, at the bottom of which the rim of the hepatic gland could be felt by the hand. The temperature was 38 degrees, the pulse beat between 80 and 90, and the general condition of the patient was rather satisfactory.

The diagnosis offered no doubt in our opinion: Suppurating Appendicitis with evacuation into the bladder (the urine which was shown to us was extremely fetid and mingled, and it did contain a large quantity of pus) and syphilitic cirrhosis of the liver.

We advised the patient to consent to be operated upon, which he did. On the following day an incision of about 7 centimetres was made into the middle of the depression observed in the iliac pit. We rapidly reached a perfectly defined cavity, which contained a little pus mixed with mucosities. We washed out the cavity with *Hydrozone* and plugged it with iodoform gauze. On the following day, when we dressed the wound, upon careful examination of the cavity, we did not find any connection with the bladder, but we could extract the appendix, which was affected by faeces.

A complete cure was accomplished in a month, and during that time the liver decreased considerably in volume. Since the third day of the operation antisyphilitic treatment was followed.

The communication between the cavity of the abscess and the bladder healed after 12 days of treatment.—From *Revista Medica Cubana* of July, 1903.

RHEUMATIC PAIN AND FEVER.

In *The Medical and Surgical Bulletin* we find the foliowing under the capation of "Acute Articular Rheumatism," by Dr. E. G. Evans:

"Salol is the best intestinal antiseptic we have, and Antikamnia as a pain reliever is, without doubt, unsurpassed; therefore, the combination of these two remedies in the form of the well known 'Antikamnia and Salol Tablets' affords us the ideal medicament for pain and fever in rheumatic conditions. Patients appreciate the fact that when administering Antikamnia, you relieve the pain without giving them morphia, while the salol acts as a germicide and antiseptic, tending to ameliorate generally the symptoms of the disease. Antikamnia and Salol Tablets (each tablet contains $2\frac{1}{2}$ grs. Antikamnia and $2\frac{1}{2}$ grs. Salol) are best given in doses of two tablets every three hours, until ten or twelve tablets are taken during twenty-four hours. The patient's bowels must be kept open and the diet should be light. Alcohol is contra-indicated, and water should be freely and frequently given. The bed covering should not be too heavy, but warm. Cold water packs, as well as hot fomentations are very beneficial."

A REMARKABLE CURE OF A REMARKABLE CASE.

By G. H. F. House, M.D., Ex-President of Indianapolis Board of Health, Indianapolis, Ind., writes: "I have just had such a remarkable cure of a case, that I feel it my duty to report it. November 20th, 1903, I was called to see Mr. B., aged 73 years; kidneys congested; bladder irritable; only one ounce of urine passed in thirty-six hours; both legs three times their normal size; abdomen full of water; heart action bad; difficult breathing. Tested urine, but found no albumen; urine full of pus, blood, urates and phosphates. Put him on Sanmetto and digitalis; punctured the legs (and they have dripped gallons of water—thought he would die). After six days, slight improvement. Kept up treatment, and at this date, January 13th, 1904, the swelling is gone and the breathing easy, urine nearly normal, appetite good, and almost well. He is now on the eighth bottle of Sanmetto. It is the most remarkable recovery I have had in twenty-seven years' experience, and I am compelled to give Sanmetto the praise. It is a grand medicine."

PREVENTIVE MEDICINE.

The Maltine Company of Brooklyn, N.Y. have published this little book for gratuitous distribution among the medical profession. It contains two prize essays. The Maltine Company offered two prizes, one of $1,000, another of $500, for the two best essays on Preventive Medicine. Dr. W. Wayne Babcock won the first prize on the subject of "The General Principles of Preventive Medicine," and Dr. Lewis S. Somers the second prize, on "The Medical Inspection of Schools: a problem in Preventive Medicine." There were 209 essays offered. They were examined by Drs. Daniel Lewis, Charles A. L. Reed, and John Edwin Rhodes. The two published essays are of very high merit.

ERGOAPIOL (SMITH) IN DYSMENORRHEA.

J. Ridly Simms, of Racine, Wisconsin, writes as follows regarding the value of Ergoapiol (Smith) in the treatment of dysmenorrhea:—

In congestive dysmenorrhea, and in that form which is accompanied by fetid discharge, the indications are to diminish congestion, by promoting the contractions of the uterus and relieving of the accumulated blood, to stimulate glandular activity in the mucosa, to restore the tone of the uterus and the nutrition of its tissues to normal, and to relieve spasm and pain.

The following cases illustrate the effects which I obtained with the use of Ergoapiol (Smith) in the treatment of dysmenorrhea:—

Some months ago I was consulted by a young woman who had suffered from scanty, fetid menstruation, accompanied by a great deal of pain, since the birth of her first child seven years previously. Her labor had been followed by a tear of the perineum which had been left unrepaired, and also a laceration of the cervix uteri. This patient consulted a specialist, but his treatment did not give her relief. Examination revealed the presence of the uterine and perineal lacerations already mentioned, and disclosed a chronic endometritis that had given rise to a fetid discharge and to pain during each menstrual period. I repaired the tears, curetted the uterus, and hoped in this manner to obtain permanent relief of the patient's symptoms. After she had recovered from the operations, she declared that she was feeling better than she had been for years. But very soon the fetid discharge and the pain returned at each menstrual period, and evidently something else had to be done if I wanted to save my reputation. I then tried local applications, alteratives, uterine tonics, etc., all without avail, until finally Ergoapiol (Smith) was given. The result was immediate relief and a gradual and permanent improvement in the menstrual flow until it was free from pain and devoid of any disagreeable odor.

This patient was evidently suffering from congestive dysmenorrhea which was intensified by the presence of lacerations of the cervix and the perineum which had existed since parturition. The result attained illustrates very well how Ergoapiol (Smith) acted upon the uterus, restoring its tissues to normal condition and re-establishing the menstrual function upon its normal basis.

Another type of dysmenorrhea, that which I term "nervous," but which the authorities term "neuralgic," is illustrated by the following case which recently came under my care:—

The patient was a young woman who had been married two years, but had not borne any children. She stated that she had pain during the menstrual period from the first onset of menses, and at the time of examination she also complained of a fetid discharge. The menstrual flow was scanty and rarely of blood red color. Just before and after the period she had backache and headache, her complexion was unhealthy, not bright and clear as that of her sister, and she appeared older than she really was. She always dreaded the onset of the menses which recurred with a regularity that is not always present in these cases. She was easily excited, and received impressions vividly and indelibly. Her digestion was poor, and she was often sleepless, irritable, and peevish.

Vaginal examination revealed a slightly thickened os and slight endocervicitis with erosions of the cervix. Cod liver oil, malt extract, hypophosphites, and aromatics, in combination, 25 per cent. of each, were given freely during the intervals between the menstrual periods and for three days before the expected menstruation Ergoapiol (Smith) was given in capsules, one being given three times daily until the discharge ceased. At the fourth period after the beginning of the treatment she was relieved of all her symptoms, and was free from pain and fetor during menstruation. Locally, tincture of iodine and occasionally tampons of ichthyol and glycerine were applied. The cure was permanent and in every way satifactory.

MUSCULAR SORENESS AND RHEUMATISM DUE TO GRIP.

In speaking of the treatment of articular rheumatism, Hobart A. Hare, M.D., Professor of Therapeutics in the Jefferson Medical College and Editor of *The Therapeutic Gazette*, says: "Any substance possessing strong antipyretic power must be of value under such circumstances." He further notes that the analgesic power of the coal-tar products "must exert a powerful influence for good." The lowering of the fever, no doubt, quiets the system and removes the delirium which accompanies the hyperpyrexia, while freedom from pain saves an immense amount of wear, and places the patient in a better condition for recovery. The researches of Guttmann show conclusively that these products possess a direct anti-rheumatic influence, and among those remedies antikamnia stands pre-eminent as an analgesic and antipyretic. Hare, in the last edition of his *Practical Therapeutics* says: "Salol renders the intestinal canal antiseptic." This is much needed in the treatment of rheumatism. In short, the value of salol in rheumatic conditions is so well understood and appreciated that further comment is unnecessary. The statements of Professors Hare and Guttmann are so well known and to the point and have been verified so often, that we are not surprised that the wide-awake manufacturers placed "Antikamnia and Salol Tablets" on the market. Each one of these tablets contains two and one-half grains of antikamnia and two and one-half grains of salol. The proper proportion of the ingredients is evidenced by the popularity of the tablets in all rheumatic conditions and particularly in that condition of muscular soreness which accompanies and follows the grip. The Antikamnia Chemical Company, St. Louis, Mo., will send samples to physicians on application. Please mention this journal.

DR. HAMILL'S EXCHANGE LIST.

When a physician desires to sell his practice and property it is of first importance that it should be done with as little publicity as possible —hence the purchase and sale of medical practices forms an important department of medical affairs, and one that nearly all physicians find necessary to use at some time or other. Appreciating the needs of the profession in this line, Dr. Hamill has for ten years been perfecting a system which we consider almost faultless as to efficiency, promptness and secrecy, and we cordially recommend Dr. Hamill as an expert in this line and advise our readers to take advantage of his ripe experience when they think of selling out their practice. See list of practices for sale by Dr. Hamill among our advertising pages.

PEPTO-MANGAN (GUDE).

Regarding Pepto-Mangan (Gude), it affords me much pleasure to inform you that I prescribe your preparation almost daily. It combines palatability, which is of especial importance in pediatric practice, with most remarkably prompt efficiency. DR. RUEDELL.

Rhaunen, August 16, 1901.

It affords me especial satisfaction to express my pleasure regarding the excellent effect of Pepto-Mangan (Gude). I have employed this preparation repeatedly with great success. The rapid and marked improvement of the appetite in anæmic patients, as well as the improvement in the general condition, was most surprising. I intend to continue the further use of your valuable remedy with the greatest confidence, and remain with an expression of my highest esteem.

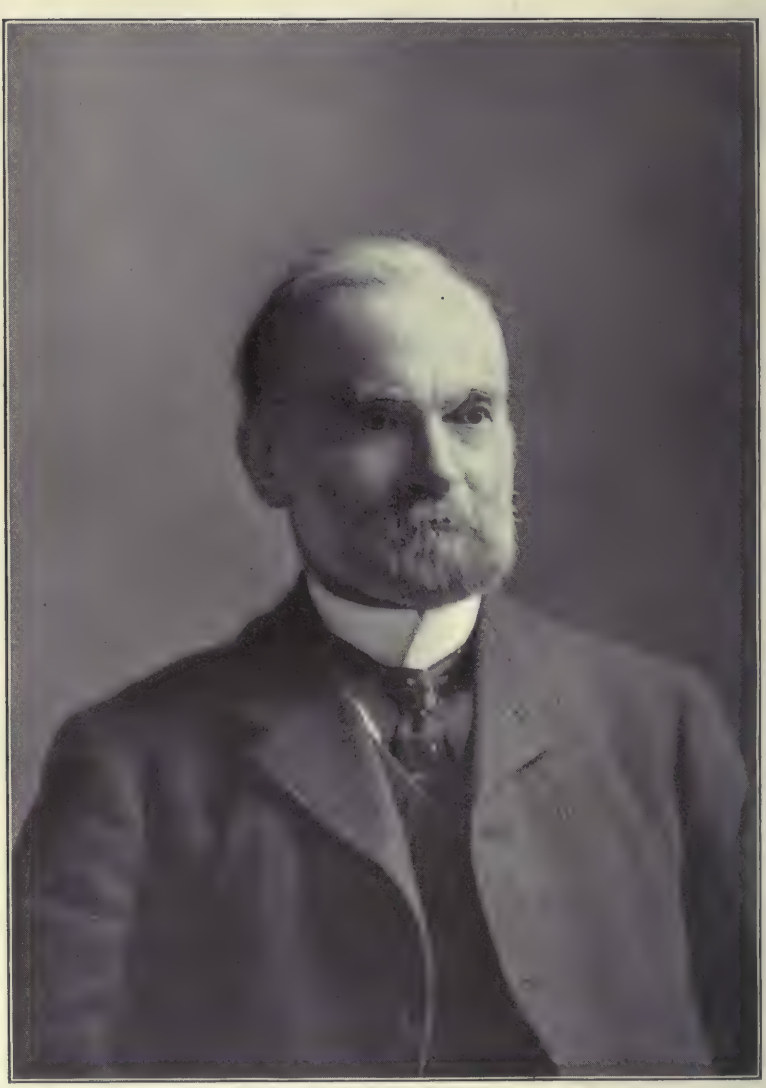
DR. LEOPOLD EGLSEER,
District Physician.

Obernberg, a/S. Upper Austria.

As to the outcome of my observations with Pepto-Mangan (Gude), I would inform you that I have derived most satisfactory results from this excellent preparation in chlorosis and anæmia, in nervous dyspepsia, and in all diseases caused by a poor condition of the blood. I therefore prescribe this preparation gladly and frequently, and have often said a good word for it among my colleagues.

DR. MARE ECKSTEIN.

Vienna, August 28, 1901.



HON. JOHN HENRY WILSON, M.D.

ST. THOMAS, ONT.

Recently appointed a member of the Senate for Canada

HOSPITAL TREATMENT AND SOME CASES IN PRACTICE.

By ERNEST A. HALL, M.D., C.M.
Fellow of the British Gynaecological Society, Vancouver, B.C.

The Private Hospital.

ELBERT HUBBARD has said that the Sanitarium bacillus is abroad in the land. This is an apt way of expressing the appreciation which the public is gradually experiencing as their knowledge of the private hospital is becoming more extensive. It has long been recognized that the private institution for the treatment of nervous diseases possesses advantages rarely found in connection with our large public hospitals. But in Canada the development of the private surgical home is a later movement. After one year's experience in our Burrard Sanitarium Hospital, with a success far beyond our expectations, I wish, through the medium of this article, to offer encouragement to those of our profession who have written letters of inquiry, and to point out a few of the advantages of such private hospitals. It is not necessary to say that the present status of medical science demands that hospital accommodation be within the reach of all centres of population of more than a few thousand, should they be without such accommodation. In the smaller places the private hospital, conducted by the leading medical man, is the ideal institution. Even in villages the private hospital can be made a success. I know of a little place in Washington, of not more than eight hundred, in which an enterprising young M.D. has conducted a private hospital most successfully. Having practised in Ontario some years ago I can give names of a dozen similar places in which a fully qualified M.D., and this includes our acquaintance with modern surgery, could successfully conduct a private hospital. The advantages of the private over the public institutions are many. The privacy which can be maintained; the more perfect control which can be had over both nurses and patients. We gain our patronage as much by some personal quality as by our skill. The private hospital being the external materialization of the surgeon's personality, will necessarily be a more suitable environment than any other institution planned and managed by another. The dominant mentality of one or two strong persons working in harmony with the nursing staff, in perfect unison, with no opposing psychic currents, is a factor of no small moment, and a matter which must be given a great consideration in the management of severe cases, especially those in which the neurotic element is dominant. This ideal environment is impossible where Dr. A. refuses to speak to Dr. B., or where a nurse

attempts to influence Dr. A.'s cases to consult Dr. B. Again the nursing staff can be selected with this psychic future in view. We make it a point to employ no nurses unless they are mentally and sympathetically congenial. We are of the opinion that the furnishings of the patient's room should be as bright and cheerful as is compatible with perfect sanitation. Bright little water colors, vases of natural flowers, and good furniture, not all glass or iron, are factors not to be neglected in hospital management. We also provide occasional concerts when there are no cases that would be disturbed by the music. A piano and a large symphonium are also at the service of the occupants ; it is in fact a miniature St. Cecilia's Guild.

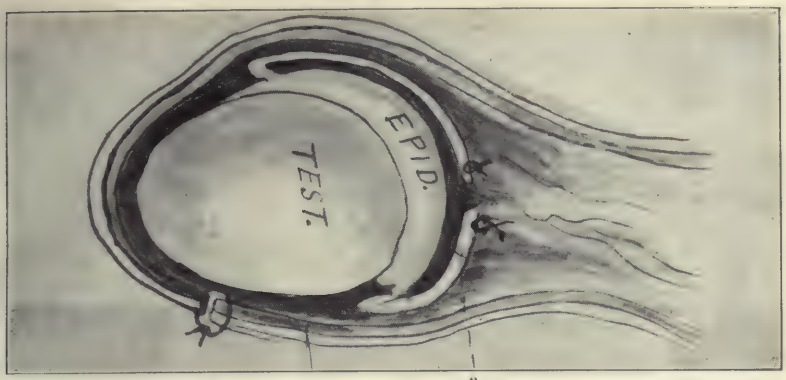
Under the conditions which obtain in this hospital, the comfort of the patient is increased to the maximum, and the influence of the physician materially enhanced. I am only voicing the sentiments of those who have had many years' experience in California, when I state that patients undergo severe manipulations with better results, when surrounded by an environment such as I have endeavored to describe, than when placed in the conditions which frequently are the lot of public and charitable institutions. A surgeon of more than local reputation, who has been associated with a private hospital in San Francisco, stated that patients recover from serious operations in the private hospital to which they would succumb if placed in a public institution. It is not beyond the scope of the imagination to suppose that the speaker's interest in such an institution might be somewhat responsible for the statement. But that as it may be, the too frequently neglected psychic factors in institutional management play a most important roll, and are to be carefully considered in order to reach the possibilities that lie within this sphere. The psychology of the hospital is yet to be written.

As an indication of the wide range of our work, I will give the cases that were at the sanitarium at the beginning of our second year.

Medical—Myelitis, muscular rheumatism, hemiplegia, bronchitis, uterine hemorrhage, intestinal catarrh.

Surgical—Inguinal hernia, adhesions following appendectomy, gastro-enterostomy, cholecystotomy, choledochotomy, hydatid cyst, uterine fibroid, hæmatoma of the ovary and cervical polypus, cirrhotic ovaries, iridectomy, retroversions with adhesions, three cases of wiring ununited fractures, hydrocele. A brief report of some of these cases will not be without interest.

Hydrocele—For some time we have been following a method of operating in this condition which was suggested by Dr. Marquis of San



SHOWING THE REFLECTED PARIETAL LAYER OF THE TUNICA VAGINALIS TESTIS STITCHED TO COMMENCEMENT OF CORD. 1—SKIN AND DUCTORS; 2—INCISION THROUGH SKIN; 3—REFLECTED TUNICA

Francisco. The results have been so satisfactory that I can recommend the procedure. It consists of opening the sac freely and turning the testicle completely outside the sac, and stitching the cut edges of the parietal tunica to the fascia at the commencement of the cord. The skin and fascia are then closed without drainage; only where the sac is greatly distended or very much thickened is it necessary to remove any of the tunica vaginalis.

Case. Mr. M., aged 34. Two years ago he underwent an appendectomy; there was some little suppuration in the wound; some six months afterwards he began to have pain at the seat of the incision, this at times would be intense, incapacitating him from business, and then would disappear for weeks. Upon re-opening, the cæcum was found attached to parietal peritoneum, along the whole length of the wound. Convalescence normal.

Case. Mrs., age 24. Referred by Dr. Newcome, of Ferguson, B.C. Anæmic from childhood. In Oct. of last year complained of acid dyspepsia, and gastric pain. A severe gastric hemorrhage, repeated next day, received well-directed treatment, and improved for a few weeks, when gastric pain returned. Posterior gastro-enterostomy, ligature over potato bobbin splint, uninterrupted convalescence, anæmia disappearing.

Case. Mr., age 24. Suffered from hydated cyst of lower abdomen which was tapped five years ago, and the sac injected with irritants, to cause obliteration. Four months ago an enlargement was noticed in the right iliac region, which caused inconvenient pressure upon the bladder. The former sac was thickened, and densely adherent to bladder, bowels

and pelvis, fascia so dense with the adhesions that it was impossible to determine the original attachment of the cyst. A secondary cyst, as large as a goose egg, was found within the old sac. During enucleation the bladder was torn, and the right vas severed. The bladder was repaired, catheter left in, and drainage tubes left in abdomen. Ten days after fæcal matter came through tube, and in three days after, came also through catheter. Three bowel fistula formed, and all closed but one, bladder working naturally. After six weeks' waiting for nature to close the fistula at the bottom of the pelvis, I concluded to make a radical attempt, and found the bowel so adherent and friable with tubercular nodules, that I decided to resect the pelvic coil some twenty inches.

Case. Mrs., aged 44. Ill for 16 years, beginning with severe dysmenorrhœa, and culminating in nervous prostration, seven years ago, under doctor's treatment for three years, improved somewhat, but suffered from severe headaches, sense of impending loss of mental control. One year ago began to feel very nervous, had been treated by the usual tampon and glycerine. From this case of nervous exhaustion I removed a cervical polypus, uterine fungosities, the right ovary was transformed into a hematoma, with complete destruction of ovariam tissue, the left had developed a cyst, the uterus was also displaced backwards.

Comment is scarcely necessary. This is the type of invalids who too frequently drift into our asylums. When tampon and glycerine, with sound and swab, and all such tinkering uselessness, give way to rational therapeutics, hundreds of poor creatures who with difficulty "hang on to their reason," and are living on the verge of mental failure, will welcome the advent of brighter days.

Case. *Acute Anterior Poliomyelitis.*—Mr. K., farmer, age 25. Admitted Dec. 22nd. Two weeks before admittance, after exposure to inclement weather, girdle pains developed, shooting around body from upper lumbar vertebræ. Four days later bowels and bladder became paralyzed. Legs began to weaken from the onset, and by the end of second week both were completely paralyzed. Sensation was normal except for a slight numbness throughout extremities.

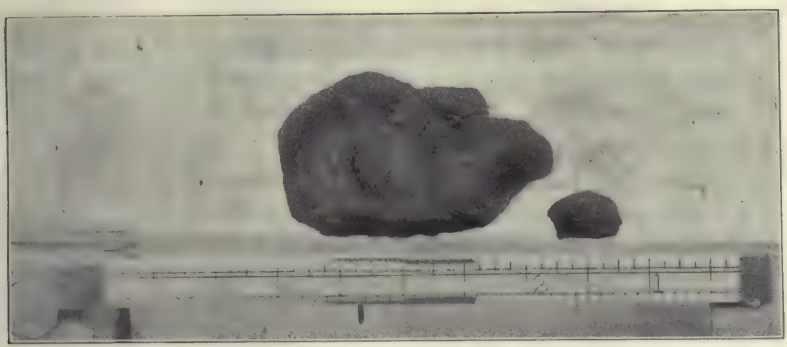
Treatment. Dry cupping was applied to spine every day for five weeks. Electric light baths were given to whole body for twenty minutes daily during first ten days; following this, one was given every other day for three weeks.

Motor power began to return to left leg one week after commencement of treatment and to right leg ten days later. Bowels moved without the assistance of an enema five weeks after admittance, and bladder

began to show slight expelling power about same time. Patient was discharged March 1st. The muscular power of legs was complete, except for a slight stiffness in right one. Bowels moved every second day without assistance. Bladder still weak, urine being expelled with little force.

The success in this very unpromising case, as such cases rarely recover, we attribute principally to the electric light baths, which must have greatly relieved the myelitis by their marked perspiratory and counter-irritant powers.

Case. *Talipes equinovarus.*—Boy, aged 18. Our method in this condition in adults has been the removal of a V-shaped mass of bone, from the convex of the foot, including neck of os calcis, cuboid, and a



LARGE GALL-STONE REMOVED FROM THE HEPATIC DUCT, WEIGHING 900 GRAINS

part of astragalus, with section of all opposing tendons, wiring of bones together, and plaster of paris splint.

Choledochotomy—This patient was a lady, age 38, referred by Dr. Connely of Chilliwack. Six months previous she came with most intense cholæmia, with great prostration, presenting a distended gall bladder. She was in no condition to endure any major operation, so I merely drained the gall bladder. Convalescence was very slow, but in seven weeks she was able to return home, the fistula continued to discharge for four months; upon the closure of the fistula, severe gall colic supervened, which necessitated the re-opening of the fistula. After several severe attacks she returned to the sanitarium, a free incision by the gall bladder showed the hepatic duct greatly distended, the mass was partly broken in removal, a probe was passed through the common duct and the opening stitched with silk, a drainage tube was inserted in the

hepatic duct, convalescence uninterrupted. The stone measured 5 in. x 6½ ins. in circumference and weighed 900 grains.

Conclusion.

In the preparation of patients for operation, we supplement the usual regime by one or two electric light baths; this is by far the best method of thoroughly cleansing the skin, by profuse preparation, and without any depression, as the radiant energy acts as a tonic. We have had no post operative trouble with either lungs or kidneys. We also give ten grains of chloretone two hours before the operation, which decidedly lessens the post operative vomiting. It is our practice to remove the appendix in all cases, in which the abdomen is opened, if it can be done without needlessly adding to the risk, as it is only a matter of two or three minutes. Rubber gloves are used in all abdominal operations. As for anesthetics, we prefer chloroform, and always commence with it, unless in simple cases, in which we occasionally use narcotile. With a harmonious psychic environment, electric light baths, clean elementary canal, yet the patient not starved, chloretone before anesthetics, careful anæsthesia, thoroughly trained assistants, well ventilated and warm operating room, rubber gloves, small incision, little exposure of viscera, rapid work, careful overlapping of raw surfaces, saline solution left in abdomen, careful closure of peritoneum, figure of eight silk worm gut satures for fascia, muscles and skin, surgery may reach an ideal development.

HYDRO-PNEUMOTHORAX.*

By ALEXANDER McPHEDRAN, M.B., Toronto.
Professor of Medicine, University of Toronto.

CASE:—Charles A——, age 51. A fruit farmer of good personal and family history. Sought advice on account of tightness in the upper thoracic region, with some cough and loss of strength. He also had hemorrhoids that bled frequently for the last four or five years oftener of late. He had had a slight cough for two years, but his health was good until 24th December last. On the evening of that day a sudden pain occurred in the right lower thorax with tightness in the sternal region. This led to decided dyspnœa, but without distinct shock. He improved and was able to go about, although with difficulty. Some days later he noticed loud, metallic tinkling sounds in the chest on movement.

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* Reported at the Toronto Medical Society, 14th April.

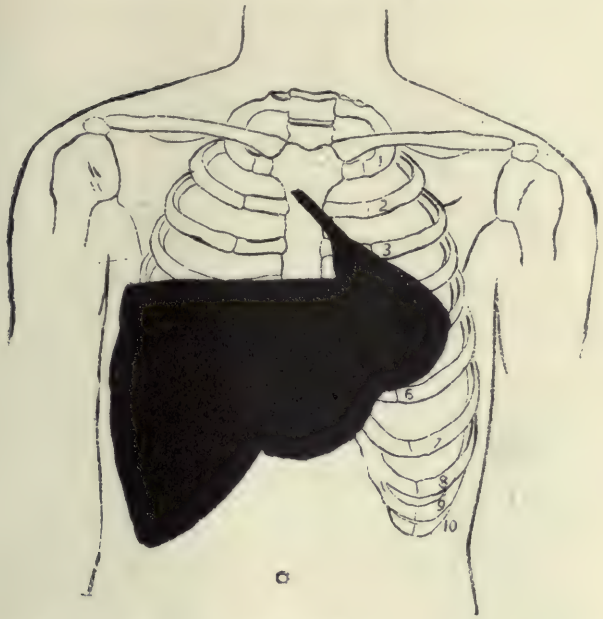

FIGURE ILLUSTRATING THE DISPLACEMENT OF THE VISCERA IN DR. McPHEDRAN'S CASE

His state on examination. He was thin, somewhat pale and worn looking. Breathing was short and labored. The right side of the chest was full and did not move in respiration. The left side showed but little expansion. No cardiac impulse was visible, except a slight pulsation at the ensiform cartilage. The heart was found displaced outwards, so that the left border was in the anterior axillary line. The upper part of the right side of the chest was very tympanitic down to the third intercostal space. Below that it was flat and markedly resistant. The upper line of flatness was horizontal, and remained so in all positions of the body. Respiratory sounds were barely audible over the tympanitic area, which extended to the left border of the sternum. Over the dull area no sounds could be heard. With the patient lying on his back the line of dullness was below the anterior axillary line, the front of the chest being tympanitic; on his left side the axilla was tympanitic and the sternal portion of the chest flat, showing that the fluid shifted its position as the patient changed his position. With movement, a very loud, tinkling splash was produced, and over the tympanitic area loud bell sounds were caused by coin percussion.

The chest was aspirated carefully under very low pressure, so

that the fluid flowed slowly, and 55 ounces of dark, greenish-yellow, rather thick serum were removed, almost completely relieving the patient's symptoms. As the serum flowed out, the respiratory sounds became more and more distinctly audible. On examination, the serum contained some granular debris, but no pus corpuscles, and was sterile. Removal of the fluid was followed by complete recovery.

Remarks.—In view of the patient's quiet pulse, the absence of fever and increase in respiratory distress, and the loud tympany, showing low

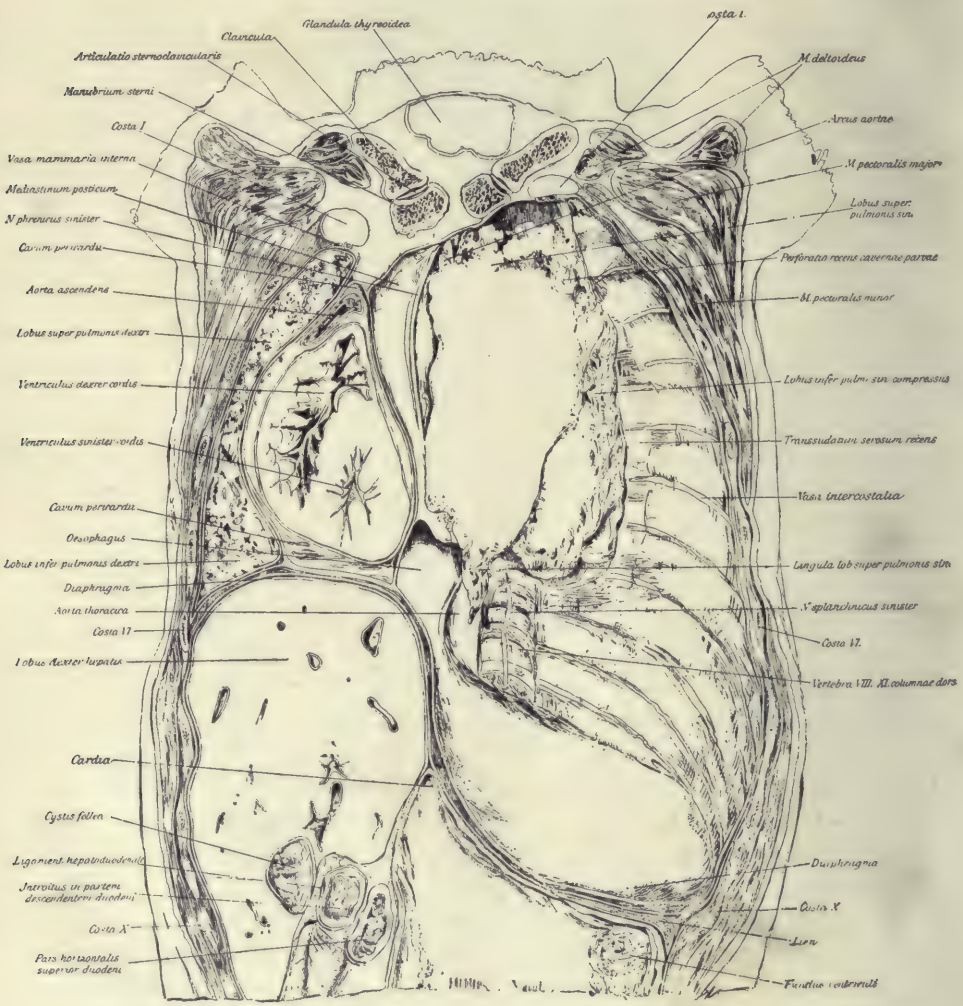

FIGURE SHOWING THE DISPLACEMENT OF THE VISCERA IN A CASE OF EFFUSION INTO THE LEFT PLEURAL CAVITY

tension of the gas in the pleura, it was considered highly probable that the perforation in the lung had closed, and therefore that aspiration could be done quite safely. It was evident that no air had at any time been forced into the pleura during cough or other expiratory efforts, as the history showed no condition of extreme dyspnœa. This was an additional reason for believing that the opening had closed. There seemed no doubt that the tension in the pleura after the first two hours was quite as high as that of the air in the lung, the serous effusion being probably secreted rapidly enough to more than replace whatever air was absorbed. In that case the perforation would not have been opened afresh after the first escape of air through it.

Properly speaking, such a case as this should be called pneumothorax, as the serous exudation was only a complication, and caused by the irritation of the pleura subsequent to the escape of the air. As to the cause of the rupture of the lung, there seems no reason to doubt that it was due to the rupture of a tuberculous focus lying beneath the pleura. The focus must have been old and sterile, otherwise the pleura would have been infected and a purulent exudate would have resulted. The man considered himself well at the time, but he gives a history of having had some cough for two years. Some writers believe that it is possible by severe strain to rupture a healthy lung, but such an opinion seems untenable. In the cases so reported there doubtless existed some quiescent tuberculous focus. It is well established that an artery never suffers aneurysmal dilatation without having first been the seat of local disease weakening its wall, and it is probably equally true that a lung will not rupture unless it also is previously weakened by disease. The late Sir William Gull is reported to have aptly said, "Call no man healthy until he is dead, and Dr.—— has made the post-mortem."

As to how soon the fluid should be removed will depend somewhat on the individual case. The greater the effusion, and hence the more marked the dyspnœa, the earlier will the fluid have to be removed, but if possible sufficient time should elapse to allow of permanent sealing of the rupture, if such will take place. As soon as air ceases to pass through the opening, if repair of the ruptures occur, it should require only a few days to become firm, so that nothing will be gained in delaying removal of the fluid at most beyond 3 or 4 weeks.

By many the use of the aspirator is not approved, lest the tension in the pleural cavity be too greatly reduced, and subject the healed rupture to too great pressure by the air in the lung. The aspirator is a convenient instrument, however, and judiciously used, as it should be in all cases, is quite as far from risk as the syphon.

There is an old theory that, in tuberculous cases, pleural effusion inhibits, and may even arrest, the spread of tuberculosis in the compressed lung, and that its removal is likely to be followed by a rapid spread of the affected lung when it re-expands. But such is only an exceptional occurrence, and is probably a coincidence rather than a result of the removal of the fluid.

Absorption of air from the pleural cavity appears to be governed by similar conditions to those related to fluid. No air appears to have entered the pleural cavity after the first day or two in this case, yet little, if any, absorption of the air seems to have taken place. As soon as the aspiration had been done both it and the remaining fluid were rapidly absorbed. In some cases of persistently recurrent serous effusion filtered air was introduced into the pleural cavity in the hope that it might lessen or stop the exudate, and with some success in a few cases. As to the air, it was always absorbed within a few days.

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A CONTRIBUTION TO THE STUDY OF GENITAL AND PROGENITAL PAPILLOMATA AND EXCRESCENCES.

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THE above title which stands in lieu of the timeworn and obsolete designation "Venereal Warts," has received but little attention heretofore in medical literature. Some authors merely suggest their existence in a cursory manner, and those who consider them somewhat in detail fail to view them from a scientific standpoint, intimating solely the clinical aspect of these lesions and paying little heed to their morbid anatomy and etiology. The writer has reason to believe that they are of much interest, not alone to the genito-urinary surgeon, but also to the general practitioner. They are not infrequently the first messengers of some affection in distant organs, or tissues of the body, permitting by their presence a number of valuable inferences to be drawn, serving as important diagnostic indices for certain abnormal states of the organism and aiding greatly rational therapeutic efforts in overcoming concomitant conditions, of which they are only expressions or symptoms.

Our first attention will be directed to the study of the genital and progenital papillomata; subsequently other excrescences will be discussed in the order of their frequency. The former may be divided, for convenience of study, into the following classification: (a) papilloma simplex;

(b) papilloma acuminatum; (c) papilloma giganticum; (d) papilloma latum; (e) papilloma molle ; (f) papilloma malignaforme.

Subjointly, the reader will find an elucidation of each variety separately, giving briefly its pathology, enumerating the etiological factors leading to its inception, outlining the methods of treatment now in vogue, and stating the prognosis in relation to other morbid states of the economy.

(*a*) *Papilloma simplex.* This is the form termed in older writings venereal wart. It is of common occurrence, especially during the periods of puberty and adolescence. Males are more frequently affected than females, particularly those of a weak and unstable nervous constitution. Its location is in the integument of the genito-urinary tract, and its adnexa, the sulcus glandis in the male and labia majora in the female being very favorite sites. It denotes an intensification of anabolism, an exaggeration of tissue construction met with during the epochs above mentioned, wherein the anabolic activity far exceeds catabolic functionation. This constitutes a most important predisposing etiologic factor. Uncleanliness of the genitalia and the contiguous parts, a tight prepuce, the presence of the smegma bacillus and the various forms of helminthes are responsible for its production. Hyperactivity of the sebaceous glands in the preputial sulcus is another potent cause. Excesses in venery, ungratified sexual desire and the irritation attendant upon masturbation are likewise apt to induce this affection. The influence which the vaso-motor nervous system exercises in the creation of these lesions must not be undervalued. In the period of extreme growth and functional activity, as during pubescence, the nervous system is likely to be burdened with the brunt of the process, which is partly characterised by an augmentation or rather perversion of function of the nerves regulating circulation and nutrition. Local vaso-motor paralysis ensues, eventuating into the dilatation of the capillaries of the layers of the corium and favoring transudation within the adjoining structures, factors instrumental in the production of the simple genital papilloma. The morbid anatomy of this form of wart is comprised in the foregoing explanation of the agency of the vaso-motor nervous apparatus in the causation of this morbidity. In short, the entire process may be regarded as a trophoneurosis. Simple papillomata manifest no subjective symptoms, being indifferent throughout. Their color varies from a dirty gray to a yellowish brown or black, with numerous intermediary shades.

The *treatment* of papilloma simplex comprises the removal of the causes productive of this lesion. Of course, we cannot curtail the

physiological period of adolescence, but we can materially aid in removing the lesions by topical applications. Cleanliness is not only curative in the majority of cases, but it is also a valuable prophylactic agent. Bathing the genitalia and adnexa with a weak solution of boric acid, as hot as it can be borne, acts very favorably upon the growths. In no instance should heroic measures be employed. Cauterization should be avoided by all means, and only resorted to when all other measures fail. After washing the papillomata with the above mentioned solution, they may be dusted with a drying powder of the following composition:—

Aristolis ..... dr. ½.
Bismuthi subnitratis ..... dr. 2.
Magnesii silicatis ..... dr. 5 M. et fiat pulvis, or this solution may be applied:—
Acidi tannici ..... dr. 1.
Adrenalin solution 1-1000 ..... dr. ½.
Collodii flexilis vel Tr. benzoini comp. q. s. ad dr. 4. M.

Sig. Apply with a camel's hair brush every second day.

In case they seem rebellious to the above procedure, more potent remedies may be tried, namely:—

Ac. salicylici ..... gr. 20.
Extr. suprarenalis ..... gr. 10.
Resorcini ..... gr. 20.
Liq. Gutta Percha ..... q. s. ad dr. 2. M.

Sig. Apply with a camel's hair brush once or twice a week. After three or four applications, the warts drop off leaving a normal or slightly reddened base underneath. If pain is experienced during the exhibition of the above applications, a few grains of the hydrochlorate of cocaine may advantageously be combined with the foregoing formulæ. As already intimated, the use of escharotics or highly irritating agents must be refrained from, lest an ugly ulcer result, which may prove very obstinate and intractable, and resist treatment. Thuja occidentalis, which has been recommended by some authors, has proven ineffectual in my hands in this form of papilloma. Magnesium sulphate in ten grain doses three times a day has acted admirably in eradicating these lesions without having recourse to any other form of medication. When cleanliness is persevered in, the simple papilloma is likely to disappear without the aid of medicinal agents. Small doses of zinc phosphide tentatively administered have a very pronounced effect upon those growths, the result of perverted nerve activity, and are indicated in nervous individuals. Tr. cocci cacti in ten minim doses is warmly recommended by some authorities.

(*b*) *Papilloma acuminatum.* This is a variety of papilloma peculiar

to the genital region only. It is a truly genital lesion. In the male, it is found on the mucous or cutaneous surface of the prepuce and its sulcus. Occasionally entire ridges may be seen to extend in a perpendicular direction on the dorsal surface of the penis. The scrotum participates in the process, and may be studded with a number of these growths. In the female, the posterior commissure and the fourchette may be the seat of this particular form of papilloma. The labia majora may be likewise involved, less so the labia minora, which is the habitat of another variety of excrescence, namely, the papilloma molle. The individual lesions resemble ordinary warts, but are more pointed than the latter, acuminated, very slender, considerably indurated and their surfaces extremely rough and corrugated. They seldom exceed one-eighth of an inch in length, and are more or less sensitive. They are of a muddy, gray, or brownish-black coloration. Their cause is to be sought in some abnormal condition of the genital organs. Ulcerations, luetic and chancroidal, or due to pre-existing herpetic eruptions, furnish an adequate soil for the development of this variety of wart. A number of cutaneous diseases, as eczema scrotale, lichen, keratosis pilaris and syphilodermata affecting the prepuce and dorsal surface of the penis and scrotum in the male, and the posterior commissure and labia in the female, may bring about this dermatosis. Urethral inflammations, specific or otherwise, and leucorrhœal discharges, diseases of the uterine mucosa, giving rise to irritating secretions, may likewise produce it. Vesical calculi have been known to cause acuminated papillomata, reflexly. A redundant and constricted prepuce, increased secretion of smegma and the presence of round worms are apt to originate it. Adolescence and middle life are the ages mostly attacked. The morbid anatomy of this variety of papilloma is identical with that of papilloma simplex, and hence need not be repeated.

The *treatment* consists in the removal of the causative factor and the institution of scrupulous cleanliness. The local applications recommended for the former variety are equally applicable to this condition. Besides these, the cautious application of chromic acid or the use of a strong solution of silver nitrate will eventually eradicate the malady. The area adjoining the wart, however, must be well protected, lest the caustic come in contact with the healthy tissue and work havoc in it. The actual or electro-cautery may at times be necessary to destroy these growths, but they are painful methods of procedure, and should only be resorted to after all the milder remedies fail. Ablation by the knife is much better than escharotism, after which the raw surface may be touched with a mild astringent and stimulating agent, as

tr. iodine or a solution of silver nitrate, 10 grains to the ounce. The tr. of thuja occidentalis acts well in this particular form, and should be given in ascending doses.

(*c*) *Papilloma giganticum.* This variety of papilloma invades most often the ischio-rectal space, perineum, the inner aspect of the thighs and the genitalia in both sexes, and may assume enormous dimensions, reaching at times the size of a hen's egg. The anal region is a very favorite location of papilloma giganticum, which it may completely encircle. It gives rise to subjective disturbances, as smarting, burning and itching, and thus occasions a great deal of suffering and discomfort.

The etiology of this form of papilloma is rather obscure; venereal causes do not seem to influence it much, for very few individuals, the subjects of papilloma giganticum, are the subjects of venereal affections. Rectal diseases, as hæmorrhoids, fistulæ in ano, fissures and neoplasms of the rectal mucosa are credited with its causation. Many nervous disorders, as hysteria, neurasthenia, general paresis, tabes dorsalis, and disturbances of the vaso-motor nervous apparatus are known to be accompanied by papillomatous excrescences in the regions above mentioned. Vaginal affections and disorders of the uterine canal are etiologic factors, known to have inaugurated this form of wart. Its pathology may be summed up in the following short description: The papillæ of the corium are enormously enlarged and the rete mucosum is filled with large pigment granules of an abnormal type; there is also a hyperplasia of the various layers of the stratum corneum. Their color varies from yellowish gray to that of a dirty brown; some assume a greenish hue.

The *treatment* consists in the extirpation of these growths by the knife. Chemical escharotics or the electro-cautery are of no avail in this form. Concomitant affections must be remedied; pathologic conditions within the rectum removed and uterine abnormalities corrected. The higher nerve stimulants may be tried if there are co-existing nerve lesions. Arsenic in the form of Fowler's solution is indicated under these circumstances, and acts very beneficially upon the local disease as well, by virtue of its epithelial predilection.

(*d* and *e*) *Papillomata lata and mollia* may be considered collectively, as they constitute really various grades of the same affection, differing only in degree, not in kind. They are of a soft consistency, and their favorite location is the perineum, anus and the integument of the penis in the male, the labia majora and minora and the posterior commissure in the female. The gluteal fold and ischio-rectal space may likewise be the seat of this form of papilloma. They may

also be occasionally observed in remote places, as in the hypogastric region, the lower third of the inner surface of the thighs and the popliteal space. The papillomata lata are apt to assume considerable proportions. In color they suggest a pearly hue, bordering on grayish-blue. They may take upon themselves numerous shapes and configurations, viz., ovoid, oblong, circular, irregularly spherical, etc. They predominate in the female sex, although males—as remarked in a former place—are by no means exempt. Pregnancy is a predisposing factor in their development, but an exciting cause is necessary for their final appearance. This exciting cause is to be found in utero-vaginal secretions of a leucorrhœal nature, so commonly met in the early months of utero-gestation. Then again, the nervous element plays an important rôle in their causation. Condylomata lata must not be confounded with papillomata lata, the latter being non-contagious in character. Moreover, other symptoms of syphilis are likely to be present at this particular juncture. They may also be ascribed to the presence of anæmia or chlorosis. Vulvo-vaginitis and various dermatoses of the genitalia are equally responsible for the condition under consideration. They may also be attributed to friction between two adjoining surfaces, as the ischio-rectal space and the inguino-scrotal fold, and the accumulations of offensive secretions in these localities.

Their pathology may be viewed as a proliferation of the tissues of the corium, maceration and ultimate desquamation of the cuticle and a slight transudation of serum in the delicate and abraided cutis. In short, they are ordinary warts, which have been deprived of their superimposed corneous covering and possessing slight moisture. They impart to the examining finger an unctuous feel. Some authors assert that there is a contagious element about them, which, however, has not been verified in the writer's experience. Co-habitation does not seem to transmit the lesions to the unaffected person. The influence of the nervous system in this form of papilloma becomes again obvious, for there are cases on record, wherein the sudden occurrence of papilloma molle is solely traceable to emotional states and hysterical paroxysms. They are more prone to make their appearance during the heated season and entail much discomfort on part of the individual thus afflicted, giving rise to subjective manifestations, especially pruritus.

The *treatment* is both local and systemic; all dyscrasiæ must be remedied and the causes favoring their production removed. Washing the lesions with a mild solution of an alkali, both deterges and disinfects them, leaving a clean surface for the application of the remedial agents.

Astringents and protectives may be used locally, as well as mildly stimulating applications. A very efficacious prescription is the following:—

Ac. salicylici	gr.	10
Zinc oxidi	dr.	1
Amyli	dr.	2
Pulv. talci	dr.	5 m.
OR		
Aristolis	dr.	1
Dismuthi subnitratis	dr.	5
Lycopodii	dr.	2

If they are situated in the inguino-genital fold, the adjacent surfaces must be separated by means of gauze, into the meshes of which one of the above powders is thoroughly incorporated. No ointments of whatsoever kind should be used in this variety of wart, nor any caustic agents.

(*f*) *Papilloma malignaforme.* As the name implies, this is either a malignant or malignancy forming growth. Its first appearance does not suggest the possibility of its being malignant, but later developments soon create a suspicion in the mind of the physician. The author has had but three cases of this singular kind of papilloma. In all of these it began in the form of an ordinary wart, situated on the glans penis or prepuce. It projected about one-eighth of an inch beyond the level of the surface it invaded. The base was markedly indurated, the surface of the growth uneven, corrugated and covered with a tenacious, ropy and mucilaginous secretion. At times, there was excruciating pain, radiating towards the groin. The inguinal glands were not enlarged nor indurated, nor was there any cachexia, the patient enjoying the best of health. Still, the local malady gave rise to much annoyance and discomfort to the patient. The author is satisfied that it is more than an ordinary papillomatous formation; its entire appearance strongly suggested the probability of its being a malignant neoplasm. The color of these lesions was a dirty yellowish-gray. One of the patients had it for about three years, with exacerbations of pain and inflammation. It was finally removed by surgical interference and thoroughly cauterized. Three or four months after, it reappeared, presenting the same symptoms as before. A second, more thorough excision was advised, which was, however, refused by the patient, who is treating it at present with one of the dusting powders mentioned on a preceding page. The age of this patient is about forty. What the final outcome of this morbid condition will be, cannot be surmised with any degree of certainty. The second patient was a Polander by nationality and about sixty years of age. A painful and indurated papilloma developed on the glans penis, surrounded

with a band or halo of inflammatory tissue. The inguinal lymphatics were not enlarged, nor was there any cachexia noticeable. Local medication and the internal administration of arsenic proved futile. Six months later, degenerative changes set in and the patient was urged to have the neoplasm removed. He drifted from observation to fall a prey to charlatans. Finally, he returned; examination at this time revealed an ulcer fully the size of a large walnut, with undermined edges and uneven floor; the base was considerably indurated and there was intense pain, robbing the patient's nightly rest. There was no enlargement of the inguinal nodes and no constitutional deterioration. Epithelioma of the penis was diagnosed and the member amputated. Complete restitutio ad integrum was apparently the result. But six months later, metastasis to the inguinal lymphatics appeared on the scene and the patient succumbed to marasmus, induced by the cancerous cachexia.* The third patient is about 38 years of age. His family and past history are negative. The present malady commenced about three or four months ago in the form of a wart with indurated margins and an inflammatory areola. No constitutional cachexia present; all the functions, assimilation inclusive, are perfect. There is, however, severe pain of a incinerating character, which occasions much distress, annoyance and worry. An immediate and thorough extirpation of the papilloma was recommended, which the patient emphatically refused. Antiseptics, detergents and protectives are the remedies employed, as well as the internal exhibition of arsenic. Not much time has elapsed since, to allow of any definite conclusion to be arrived at. The author apprehends the possibility of its turning into epithelioma, for it tallies closely with the manifestations of the two former cases.

Other genital and progenital excrescences. Cornu cutaneum, although invading in preference the scalp and face, is also encountered on the genitalia. Dr. Felix describes the case of a boy, whose penis was the seat of a number of cutaneous horns; some of them were spiculated, while others were blunt, straight or curved. Their color is a dirty yellowish-white. The shape and size of these excrescences vary; they are either straight, or curved, or twisted in various directions. They are invariably shed after reaching a certain size, but soon redevelop after a short period of quiescence. They are caused by wounds, pressure, or injuries to the integument of the penis and its adnexa. Chancroids are known to cause them; they may also originate from pre-existing papillomata. Their morbid anatomy may be viewed as a hyperplastic

*This case was reported in the Columbus *Medical Journal* (1898).

growth of the rete mucosum. Enlarged papillæ and tortuous capillaries have also been observed. The epithelial cells of the epidermis are cornified and arranged in the form of longitudinal bands or pillars. The *treatment* calls for their *immediate removal.* This may be accomplished by ligating off their base or, what is still better, the entire growths are excised with a portion of the tissues they spring from. The base is then cauterized with the actual or electro-cautery, or with a strong solution of zinc chloride. The above can be done under local anæsthesia. Not infrequently these growths are the starting nidi of malignancy and their early removal is therefore imperative.

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CARCINOMA OF STOMACH, CAUSING ATROPHY OF THE ORGAN, WITHOUT PYLORIC OBSTRUCTION.*

By R. J. DWYER, M.B., Toronto, M.R.C.P., Lond. Lecturer on Clinical Medicine, University of Toronto.

J. M., æt. 55, sailor, admitted Feb. 6, 1904, complaining of loss of appetite and pain in the stomach, made worse by taking food; also had attacks of nausea but had never vomited, nor had eructations. Was also much constipated.

Family history.—Parents died of old age. One brother is living and well; no other brothers or sisters.

Personal history.—Had diseases of childhood, but had always been healthy up till present illness, except for some catarrh of nose. Had always been moderate in the use of tobacco and stimulants, and had never had any venereal disease. His occupation as a sailor kept him employed during the summer, but during the winter he did nothing.

Present illness.—His trouble began last December with loss of appetite and burning pain in the stomach after food, especially if the latter was meat or potatoes. These symptoms he attributed to his want of exercise and indoor life. The pain, which at first only appeared shortly after food, had latterly become almost continuous. Although he had never vomited for some time past he had been subject to attacks of nausea, coming on about two hours after meals. About the time that he first began to be troubled with the stomach he also began to lose weight, and this, with the other symptoms of his illness, had persisted up till the time of death. Had never vomited any blood.

Condition on admission.—Weight, 124 lbs. At the time the illness began he weighed about 147 lbs.

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*Read at the Toronto Medical Society 14th April.

General inspection.—He was a man of medium stature, slightly emaciated, and somewhat anæmic; skin dry and harsh; facies drawn and anxious, but showed no distinct cachexia.

Examination of abdomen.—There was slight general distension, due to numerous coils of intestine, in which active peristaltic action was visible. Some dilation of veins in the wall on either side in the lower half. There was no fulness in the epigastric region, except in the left half close to the costal cartilages, where a slight fulness, about four inches in length, was discerned. This faint prominence was parallel to the costal margin and moved slightly downwards on a full inspiration. Palpation elicited no general abdominal tenderness, but some distress in the epigastric region which he asserted firm pressure relieved. His favorite attitude was to sit at the side of the bed and bend forward over its edge, in such a manner as to press it against the epigastrium. The fulness seen on inspection was found to be an indefinite, nodular mass, running towards and ending in the middle line in a distinct, hard, round tumor, about one inch in diameter. This tumor was situated about two inches below the ensiform, and varied in its distinctness from time to time, though no gas was felt bubbling through it.

Percussion over the indefinitely large mass, at the end of full inspiration, showed it to be tympanitic, and evidently due to stomach distension. Frequently, too, at the end of a full breath, bubbling could be felt through it. According to the area of tympany denoting the stomach the latter was much contracted, not reaching beyond the middle line, nor extending lower than three finger-breadths above umbilicus.

Constipation was very obstinate, and only yielded to pulv. jalap. co., otherwise he would not have a motion in five or six days.

Examination of urine revealed no albumen; sp. g. 1029; no sugar; reaction neutral; no bile; excess of urates; and indican also found.

Examination of stomach contents.—℥ii being taken an hour after Ewald's test breakfast; brownish fluid with particles of undigested bread; no excess of mucus; odor not sour but disagreeable; no HCl; no lactic acid; and no pepsin. The microscope showed epithelial cells, starch granules, yeast cells, numerous pus cells, a few red cells and a few long rods, resembling Oppler-Boas bacilli.

Circulatory system.—There was a moderate degree of arterio-sclerosis in peripheral vessels, but no enlargement of heart or valvular murmurs.

Respiratory system.—At the right apex, vocal and tactile fremitus was increased, and the breath sounds were harsh, but no râles could be heard. The sputum was abundant and muco-purulent. Repeated

examination failed to discover tubercle bacilli, but many streptococci were present, with abundance of pus cells.

No enlargement of supra-clavicular glands.

Subsequent history.—Feb. 26, had steadily but slowly emaciated and grown weaker. Stomach contents again examined, and absence of HCl, lactic acid and pepsin noted. The urine on this occasion was found to be albuminous, containing 1.5 per cent. of albumen by bulk.

March 4th.—To-day it was found impossible to pass the stomach tube, owing to an obstruction at the cardia. The tube appeared to be gripped at the latter orifice, and prevented the passage of fluid either way, though swallowing was not interfered with to any extent. The cancerous cachexia was noted in the face. Some enlargement of the supra-clavicular glands was also observed for the first time.

He died a month later, April 4th, from facial erysipelas, which attacked him three days before death. There were no new developments, merely a progressive asthenia, emaciation and anorexia. The stomach tube could not be passed in spite of repeated attempts. The albumen, noted as being present in the urine Feb. 26, had disappeared for over a month before death. The epigastric tumor did not markedly increase in size, neither did he have any severe pain, hematemesis nor vomiting.

Autopsy report.—Post-mortem, 18 hours after death. Rigor mortis and post-mortem staining well marked. Body much emaciated.

Section.—On opening the abdomen, the tumor, noted during life at the edge of the left floating ribs, was found to be due to a flat, nodular growth, triangular in shape, and occupied the only visible portion of the anterior wall of the fundus of the stomach. This growth was about 2 inches in diameter, and was the most prominent and visible portion of an envelope of malignant disease which had invested the stomach on all its surfaces and borders, except a narrow strip along the greater curvature and anterior surface. Even in this situation, there were numerous adhesions and thickenings of the omentum with a number of nodules of cancer in the space between the stomach and transverse colon. To the left and just above the pylorus was a large, round growth, 2 inches in diameter, which was densely adherent to the stomach and formed the most prominent feature of a mass of new growth which thickly occupied the lesser curvature and posterior wall, and which closely bound into one mass the pancreas on the one hand and the diaphragm on the other. The latter was particularly adherent round about the œsophageal opening. The pancreas, though beset by the growth and universally adherent to it, was in itself free of change. The spleen was very adherent to the stomach. Between the stomach and

the liver were also numerous adhesions, which were very thick and obviously infiltrated with cancer tissue, especially about the hilus. In this situation the neck of the gall bladder was compressed and that viscus considerably distended, containing about ʒvi of bile.

The stomach, on removal, appeared to be distinctly smaller than normal and was markedly constricted by a band of adhesions about its middle. The measurements were from cardia to pylorus 3 inches on lesser curvature, and on the greater curvature about 12 inches.

On opening the organ, the walls were found to be thickened and firm. Over two-thirds of the interior was occupied by a vast, shallow ulcer, with here and there hard ridges, and a raised fungating edge. Here and there were patches of deeper ulceration, averaging ¾ inch in diameter, and, in one spot, a large slough was loosely adherent. The growth extended to within 2 inches of the pylorus along the lesser curvature, and over the fundus and sides, except for a strip 1½ inches wide reaching from the cardiac opening to the pylorus. The latter opening was free and patent, but the cardiac opening was partially occluded by a number of fungus masses which projected into the œsophagus.

The stomach contained about ʒiv of grumous, treacly fluid in which were a few small blood clots.

The liver was pale and not enlarged, one large cancer nodule on convex surface at the junction of the two lobes. Numerous nodules, from ¼ to 1 inch in diameter, were scattered throughout its substance.

Both kidneys were small, normal in color, the capsule in both being very adherent.

The spleen was small, but otherwise normal.

The colon was loaded with slaty-colored, putty-like fæces. The splenic flexure was involved in adhesions and somewhat constricted.

On the front and sides of the vertebræ, and extending from the cardiac axis down to the bifurcation of the aorta, was a large nodular mass of cancer, which closely invested the abdominal aorta, but did not invade the wall.

Thorax.—Left pleural cavity contained about ʒx of reddish, fibrinous fluid; patches of lymph were found over lower lobe at its edge and under surface. Some recent adhesions on outer surface of upper lobe. At apex, pleura was thickened and cartilaginous, and the entire pleural membrane was much reddened and injected. This injection, as also the deposit of lymph, was most marked around the œsophageal opening. The lower lobe of the lung partially consolidated and grayish on cut surface. A number of small, hard nodules, like tubercules were scattered throughout this hepatised area. Also many points exuding thick mucopus in the lower lobe, fewer in the upper lobe.

Right pleural cavity.—There were a few old adhesions over the outer surface of the lung. The pleura at apex was thick and cartilaginous. The lung, generally, pale and emphysematous. Half-a-dozen or so small hard modules were scattered throughout, from base to apex. These were caseous on section for most part, though some were calcareous.

The heart was small and pale, the muscle friable and the valves normal.

The bronchial glands were enlarged, mostly pigmented and calcareous. Several, however, were obviously cancerous. Of the latter, a number extended along the aortic arch.

In the left supra-clavicular region was a cancerous gland, 1 inch in length.

Comments.—The foregoing case presents unusual features, both in the clinical course and the post-mortem findings. About 3-5ths of all gastric tumors are found in the pyloric region, forming during life a visible or palpable mass, at or to the right of the mid line in the epigastric region.

Of twenty-four cases of tumor of the stomach collected by Prof. Osler, 14 presented a mass at the pylorus, and of these 10 had dilatation of the organ so pronounced as to form the most striking feature of the abdominal appearances, while in 3 others, dilatation was present.

In the present case, the tumor was felt during life in the left epigastric region and almost concealed by the ribs. Contraction rather than dilatation appeared to be the condition during life.

Throughout the illness, the absence of vomiting and hematemesis was noticeable.

The pylorus being free of growth would account for the absence of dilatation, but not for that of the other symptoms. The extent and severity of the lesion, as revealed after death, were also remarkable in view of the history.

The primary situation of the growth, too, was unusual. This appeared to be in the lesser curvature. Of 1,300 cases of tumor of the stomach, collected by Prof. Welsh, only 148 were found in this situation.

In view of the history of the last few days of life, the immediate cause of death, viz., the purulent pleurisy, with pneumonia of the left base, was quite unexpected. There had been no rise of temperature, and no aggravation of the general symptoms, sufficient to indicate the presence of a condition so severe.

The existence also of a latent pulmonary tuberculosis must also be regarded with interest; more particularily as the examination of the sputum did not reveal it during life, though the physical signs pointed to it as a possibility.

AN EPILEPSY SYMPOSIUM.

By JOHN FERGUSON, M.A., M.D., Toronto. Senior Physician, Toronto Western Hospital.

IN *Medicine* for February, 1904, there are a number of articles on the diagnosis, pathology, etiology, and treatment of epilepsy. These articles are by Wharton Sinkler, J. Chalmers Da Costa, Wm. P. Spratt-ling, John B. Chapin, William N. Bullard, Henry M. Weeks, Albert C. Buckley, F. Savary Pearce, S. Napoleon Boston, and Carran Pope. These articles cover the field of what is known regarding epilepsy at the present moment.

WHARTON SINKLER, M.D., in his "Presidential address to the National Association for the study and prevention of epilepsy and the care and treatment of epileptics" covers a wide range of topics. He calls attention to the interest that is now being taken in these cases, and to the establishment of homes for epileptics. A hundred years ago the provisions for the care of the insane were no better than that for epileptics a few years since. As our knowledge of insanity increased, it was found that a much larger number of the community required care in suitable institutions than was at one time thought; and so with regard to epileptics, it is now known that there are more epileptics than was once thought to be the case. He refers, in graphic terms, to the dungeon cells in which maniacs were formerly confined.

In 1890 there was not a single hospital, colony, or institution of any kind devoted exclusively to the care of epileptics. In Europe twenty years ago, there were only a few colonies, but now there are many. There are now 21 state institutions, many of which are of very fine construction and with every facility for outdoor work and recreation. Reference is made to the new institution for epileptics at Woodstock, Ontario; and to several now in existence in Britain, namely, at Maghull, at Chalfint St. Peter, the Meath Home of Comfort, St. Luke's Home at Bournemouth, and at Ewell, Surrey. This latter institution cost $500,-000, is on a farm of 112 acres, and has accommodation for 325 patients. The Craig Colony at Sonyea, in the State of New York, has 1,900 acres of land. Every form of occupation is to be found there. From constant occupation, not only are the lives of these people made happier, but, as statistics show, their disease is ameliorated and sometimes cured, and they become useful citizens, instead of despondent, feeble-minded drones.

In reviewing the recent literature upon epilepsy, Dr. Sinkler cites Krainsky to the effect that there is a close and constant connection between the excretion of urea and epilepsy. Every attack is preceded for

24 or 48 hours by a diminution in the amount of excreted urea. So long as the epileptic excretes .6 to .8 of urea there is no danger of an attack, but if it falls to .4 or .3 an attack is imminent. He is inclined to regard epilepsy as a disease of metabolism to some extent. Dr. G. W. McCasky has drawn attention to the influence of gastro-intestinal diseases on epilepsy. Cabisto has made some investigations on the perspiration of epileptics, and found that immediately after an attack it was very toxic, whereas that collected in the intervals was not toxic when injected into a rabbit. Cabisto urges the diaphoretic treatment. Drs. Clark and Prout regard the excitant as a toxic or autotoxic agent. They contend, from a study of 21 autopsies at the Craig Colony, that the changes of the cell are quite analogous to those definitely known to be caused by toxic agents, such as alcohol, tetanus toxin, and autotoxins. Dr. Crothers is quoted to the effect that the abuse of alcohol is a potent cause of epilepsy, and that alcoholic epilepsy is rapidly increasing. In the general populace there are 2 cases per 1,000; but where drinking abounds, and in the neighborhood of distilleries, there are from 4 to 7 cases per 1,000. Drs. Fletcher Beach, of London, and G. M. Gould, of Philadelphia, are referred to as authority that cases of epilepsy have been cured by correcting errors of refraction. Heredity does not appear to be of great importance. Gowers, Tissot, Leuret, Delasiauve, Berger, Turner, and others give the influence of heredity as varying from 9 to 35 per cent. of the cases. In the Infirmary for Nervous Diseases, Philadelphia, 9 per cent. showed an epileptic heredity.

With regard to treatment, Dr. Sinkler remarks that it is well to be guarded in claiming too much, as epileptics usually improve for a time under any method of treatment. Lion and Poehl have reported good results from the administration of cerebrin, either in tablet form or subcutaneously. In a number of cases distinct improvement followed this treatment. An epileptic was treated in the Pasteur Institute for rabies, and his epilepsy did not return. It has been suggested that the antirabic treatment may prove useful. In a case treated at the Post-Graduate Hospital, N.Y., benefit is claimed from the use of the x-rays, after other methods of treatment had failed. Urbane Alessi claims that epilepsy is due to well-marked changes in metabolism and gives a combination of sodium arsenate, zinc phosphide, calcium phosphate, sodium benzoate, and pancreatin. Bechterew recommends potassium bromide, codeine and adonis vernalis, given twice a day. Janot strongly urges the treatment by the bromides. He gives potassium bromide in quantities varying from 60 to 150 grains per day. Many years ago, Hughlings Jackson recommended the withdrawal of salt from the food. Recently

a number of writers pressed this forward for favorable consideration. Some observers, including Hammond and Weeks, have found good results from the administration of chloretone. Others, however, have met with instances of stupor from its employment. Dr. Sinkler ends his review of the various methods of treatment with the statement that our mainstay at the present time is the bromides.

He concludes his article by contending that the requirements of epileptics are best met in industrial colonies or farms. The most favorable results are obtained by giving them ample opportunities for work under good hygienic conditions, where this treatment can be carried out by regular methods. These conditions can only be fulfilled in the country. The cottage plan of treatment is by far the best. In connection with this cottage system there should be a well-equipped hospital. Every facility must be furnished for indoor amusements for bad weather, and the more delicate patients. There should be a separate building for children. The inmates of these colonies are put at various forms of employment, and, in this way, earn much of the cost of maintaining them. He refers in his address to the excellent work done along these lines at the Bethel Colony, Bielefeld, Germany, and the Craig Colony, New York.

DR. CHALMERS DA COSTA, Professor of Surgery, Jefferson Medical College, in his article discusses "The Surgical Treatment of Epilepsy." He starts out with the statement that the aim of a surgical operation is to cure, or materially benefit the patient, and quotes the saying of Rabelais that "science without conscience is naught but ruin of the soul." He condemns operations that have no clearly defined object in view. The statement is made that in brain surgery the sphere of the surgeon is limited, and particularly so in epilepsy. As there is one epileptic in every five hundred persons, the surgeon is sometimes consulted with regard to the possibility of an operation.

Among the causes of the disease may be mentioned hereditary influence, emotional shock, autointoxication, syphilis, alcoholism, chronic poisoning with lead or mercury, inflammations or growths of the brain or of its membranes, traumatism of the head, and reflex excitement. From this it is clear that there are many different forms of the disease, or that epilepsy is a symptom-group resulting from various conditions acting on an already predisposed brain. It is this fact that makes the surgeon chary of predicting a cure by an operation. Our conception of the pathology of epilepsy is not an established certainty. It has been, and is still, changing; and scarcely two authorities are agreed upon the subject. The majority of observers believe there is some essential trouble

in the cells of the cortex. In some instances there are depressions of bone, tumors, or adhesions between the cortex and its membranes, or some other obvious lesion.

Among the surgical methods of treating epilepsy may be mentioned ovariotomy, clitorectomy, circumcision, nerve-stretching and nerve-section, orchidectomy, the removal of irritating scars and of painful cicatrices, blistering, cauterization, the use of the seton, operations on the ocular muscles to correct defects, the ligation of the vertebral arteries, the excision of the cervical sympathetic ganglia, and trephining of the skull. Many of these procedures are dead; but the practice of trephining the skull, which was introduced for the cure of epilepsy in the sixteenth century, is still employed in some cases. During the seventeenth century, trephining was practised to an extraordinary extent. The operation fell into disuse under the attacks of such men as Desault and Abernethy. In 1867, LeFort states that the operation had only been performed four times in France in ten years, and Mr. Callender, in the St. Bartholomew's Hospital Report for 1867, says that there had not been a case of trephining in the hospital for six years.

There are some cases where the removal of a painful cicatrix or the performance of circumcision has been of distinct benefit; but the number of cures by such means are really very few. A few years ago it was claimed that surgery could cure from 60 to 70 per cent. of cases. These claims are no longer put forth. The author thinks that less than 5 per cent. of cases can be cured by operation. Any operation, or the administration of an anæsthetic, may temporarily benefit an epileptic and, in the past, this was often regarded as either curing, or improving, the patient; the effect only lasted a short time. Cases should not be reported as cured till after a lapse of at least three years.

Before operating in any case the utmost care must be taken with regard to the diagnosis. The greatest care should be taken to arrive at correct views on the matter of injury to the head at some time in the past. For the purpose of making a diagnosis, the author classifies attacks of epilepsy as follows:—1. Reflex epilepsy; 2. The common nontraumatic, idiopathic epilepsy, in which the attacks are general and without a local onset; 3. Idiopathic epilepsy with a local onset of attacks (focal and Jacksonian epilepsy); 4. Traumatic epilepsy, of which there are two forms: (a) attacks without a local onset, and attacks with a local onset (focal or Jacksonian); 5. Jacksonian epilepsy due to gross brain disease, a tumor, aneurism, etc.; 6. Epilepsy following infantile cerebral palsy; and 7. Post hemiplegic epilepsy of adults.

With regard to idiopathic epilepsy, uncomplicated cases should not

be operated upon. Operation cannot effect a cure. In the status epilepticus trephining may relieve the pressure and be of distinct benefit. Kocher claims that in essential epilepsy there is increased cerebral pressure, and that trephining, opening the dura and cutting away the edges of the flaps, and draining the lateral ventricles through a silver canula always do good. Jaboulay claimed good results from the excision of the cervical ganglia of the sympathetic. This operation was founded on the belief that in epilepsy there is cerebral anæmia; but this is no longer held.

In cases of idiopathic epilepsy with focal symptoms, it is thought by some that the cause is infantile cerebral hemorrhage. In these cases the fits are usually limited to one side. Operations in children are more hopeful than in adults; when the condition has existed for a period of two years, operation holds out little hope of a cure. In some old cases, where the fits are frequent, an operation may lessen their frequency and severity. In some of these cases a portion of the motor cortex is removed. This operation benefits many for a time, but the scar that heals the brain wound becomes again the source of irritation. In performing these operations plenty room should be secured.

Traumatism may cause epilepsy, but usually some months or a year or more may elapse before the fits come on. The scalp should be examined with great care for painful scars, as these may cause epileptic attacks by reflex influence. They should be removed. In all cases where there is any indication of skull injury, or depression, an operation should be performed. The dura must always be opened, and if there is any dural scar, it must be removed. The brain should be carefully examined for tumor or scar tissue. If no tumor or scar can be found, it is justifiable to remove the motor centre from which the convulsions arise. When the injury was in the motor region the chances are much better than when it occurred to a sensory centre. When the injury was in the frontal region the chances of cure are remote. In some cases of generalized epilepsy a button of bone may be removed and left out, with the view of modifying the cerebral pressure.

The author's conclusions are: operations for epilepsy are distinctly disappointing, and are indicated in only a few cases; they frequently produce temporary improvement; they may save life, but they are not free from danger, and sometimes leave the patient worse than before; and the number of cures is probably under 5 per cent.

WM. P. SPRATTLING, M.D., treats of "The Psychological Aspects of Epilepsy." Dr. Sprattling, as the medical superintendent of the Craig

Colony, has enjoyed exceptional opportunities for the study of this subject. Every true epileptic attack impairs the mind to some extent, and this cannot be determined by the degree of motor disturbance. There are cases where consciousness is completely lost, and yet there is no muscular commotion in the body. This is specially true of psychical epilepsy, which is a very perplexing problem for the psychologist. There is a form of post-epileptic automatism that is very like psychical epilepsy. In this state actions are performed as if the person were conscious, and yet he is acting like an unconscious machine. The effects of epilepsy on the mind may be classified as temporary, prolonged or permanent. The temporary effects are those that occur at the time of the convulsion; the prolonged effects are those that last for a considerable time, and may precede or follow an attack; and the permanent effects are those that cause mental unsoundness of varying degrees.

The paroxysmal mental states due to epilepsy are psychical epilepsy, a morbid state entirely complete in itself; epileptic automatism, a condition of mental vacuity and bodily activity; pre- and post-paroxysmal disturbance, usually in the form of mania; and paroxysmal or epileptic mania, occurring during the attack. When this condition takes the place of the fit it is psychical epilepsy.

The following are the mental states due to epilepsy, occurring in the intervals of attacks, namely, transitory ill humor and loss of memory for recent events; slight clouding or dulling of the intellect; feeble-mindedness; imbecility; idiocy; epileptic dementia; and acute confusional insanity, characterized by delusions, hallucinations and illusions. If the stamina of the person is good, the attacks may last for many years before the intellect is much impaired, but in other cases this is early manifested. When epilepsy comes on in adult life, and has been preceded by vicious habits and alcoholic excesses, the mind is almost at once marred.

Some of the nocturnal attacks may be mistaken for somnambulism, the patient moving about in a most deliberate fashion, and avoiding danger. In some instances a conversation may be conducted with such patients and no recollection of such retained when consciousness returns. No instance has been observed in which the acts and sayings of this state were remembered. This automatic state is usually one of motor tranquillity, but it may be the reverse. Psychic epileptics commit all manner of crimes, such as rape, homicide, arson, theft, etc., and in this state often go away to distant places, being unable to give any account of how they came to be in their strange places.

Mania may occur in connection with fits, either before or after them. It is more frequent before attacks than after them. It may begin some days before the paroxysm, and show itself as irritability, the person being unusually talkative or fault finding, magnifying trifles into matters of great importance. Finally, there is a falsification of the special senses which constitute the aura of an attack. Delusions of persecution may be present. There is sometimes confused ideation, rapidly changing, and the speech may be a mere jargon. These disordered mental states that precede the convulsions subside with the coma that follows the fit. Some patients know nothing that occurred during this confused state prior to the attack. In some grandmal attacks there is very great physical disturbance, and the patients act in a most violent manner. This epileptic furor is perhaps the wildest frenzy known in any condition. They seem to develop superhuman strength, five or six strong attendants being required to restrain a patient. This may be followed by extreme prostration.

In some instances the patient is irritable, fault-finding, fussy, querulous, things that ordinarily would not annoy cause much displeasure. These conditions may last for some time, even days, before the convulsions, but almost always disappear after it, the convulsions clearing up the atmosphere again. It is well within the mark to state that about 80 per cent. of epileptics show these temperamental obliquities.

The memory is, of all the faculties, the one that suffers most. In cases of a mainly motor type, the memory may escape for a long time, but if the epilepsy is of the psychical type, it soon suffers, and severely. A single attack may destroy the memory for a thing that the person was charged to look after, the person completely forgetting what he was going to do. Every attack tends to destroy the memory of recent events, and this renders the education of the epileptic a very difficult task. As the memory fails feeble-mindedness sets in. This is the case in about 50 per cent. Later on, a considerable number of these become imbecile. Consciousness is generally little impaired. Trifles may be remembered and essential things forgotten. As the mind weakens the ego is magnified. Epileptic idiocy is the lowest mental state to which these patients can sink, save that of complete dementia.

The condition of epileptic idiocy may be congenital or acquired. There are found chronic encephalitis, diffuse syphilitic disease of the vessels, arrest of cortex development, inequality of the hemispheres, defect of the island of Reil, thickening of the meninges, cephelhæmatomata, embolisms, thromboses, atrophy of cortical cells, microcephalus, and

macrocephalus. The epileptic idiot is usually small and undeveloped, and there are many stigmata of a low grade physical organism. These features are present in 80 per cent. of idiots. The idiotic type is usually met with in the young, under 10 or 12 years, and rarely arises after 18 or 20 years. Motor types of epilepsy rarely cause dementia, whereas those cases where the convulsions originate in the frontal lobes are prone to become dements. At the time of a paroxysm these dementia cases may become excited, violent and dangerous, being roused from their apathy for the time. The frenzy appears like a flash and spends itself in a moment. Dementia usually occurs between 20 and 40 years of age.

Epileptic mania, melancholia and circular insanity form a group of psychoses. The symptoms may be very complex. In mania there is great psycho-motor excitement, purposeless activity, excessive emotional attitude, unsystematized delusions, sometimes hallucinations, and the perceptive faculties may be overly acute. The depressive forms are characterized by mental and motor symptoms, the opposite of the above. There are a lack of activity, paucity of ideas, emotions of dejection, delusions of a persecutory nature, and some obscuration of consciousness. These states may alternate, or become mixed. Thus we meet with the maniac, depressive and mixed forms. The epileptic is subject to sudden impulse. In two cases of self destruction, there was no indication of premeditation. These were the only two in an experience with 1,600 cases, 200 of whom had been committed as insane.

JOHN B. CHAPIN, M.D., of the Pennsylvania Hospital for the Insane, takes up "The Consideration of the Epileptic by the Courts." In the first place the writer states that the epileptic is an object of sympathy wherever he may be found. The interest in him begins with his disease and does not end till his death, as very few recover. He is found in the hospitals, the asylums, and sometimes friendless and shunned, a wanderer in the community. Although he may not be in the public gaze, he is usually heard from, as he is not regarded as properly placed in any location, wherever he may happen to live.

The epileptic sometimes receives the consideration of the courts. By reason of his disease he may become irritable, feeble-minded and suspicious, having hallucinations, delusions and illusions. By the time the physical storms have ceased, the unfortunate person reaches the terminal stage of dementia. There is a loss of self-control; and passionate outbreaks may precede or follow the seizures, during which criminal acts may be committed. The epileptic must be regarded as insane dur-

ing convulsive seizure, and usually for some period either before or after it. In the intervals between the seizures, the epileptic may appear normal; and this is often the source of much medico-legal difficulty in dealing with the acts done in these intervals.

Epilepsy has been assumed as the cause of criminal acts, and this defence has been set up, on the assumption that it was the only way in which to account for these acts. In some instances this has been accepted by the courts, and the person charged has been committed to an asylum or prison. After years of observation, no seizures were detected, and these persons have been discharged. It is reasonable that the responsibility of the person should be determined by some other test than the nature of the act alone. *Mania transitoria*, instead of always being a manifestation of epilepsy, may only mean that the person made no attempt to control the impulse, and that he is, therefore, responsible for his acts. It must also be remembered that epilepsy has been successfully feigned. This is notoriously so in the case of James Clegg. If the defence of epilepsy is set up, it may be laid down as a safe rule that in all forms of this disease some of the recognized marks of its actual existence will sooner or later be observed.

But suppose no convulsion has ever been observed and there is nothing but the criminal act, or that at long intervals there have occurred convulsions, but no mental failure can be detected or incapacity to appreciate the nature of his act or the proceedings of the court, it is not likely the court would accept the view that there had been a nocturnal or unobserved attack. Courts have held that the epileptic is responsible, no matter how many convulsions he may have had, unless it can be shown that the criminal act was committed during or preceding the seizure, and was done in a state of unconsciousness. The studies of J. Russell Reynolds show that 66 per cent. of epileptics present varying degrees of mental impairment. If it be contended that every epileptic, whether the attacks are frequent or rare, be mentally impaired, the statements made by Reynolds that 33 per cent. of epileptics show no impairment must be considered. In cases where an epileptic is tried for an act of his, he has often been held responsible, unless the act was committed during, or just preceding or following the attack, particularly if it is shown that in the intervals he possessed the usual elements that constitute a state of responsibility. It is not likely that a court would accept the plea of irresponsibility on the assumption of nocturnal or unobserved day seizures. The author reaches the following conclusions:—

1. That it is the result of observation that epileptics do show some mental failure, as loss of memory, a tendency to become suspicious, revengeful, emotional, passionate, etc.

2. That these changes become more marked as the attacks become more frequent and the disease advances.

3. In every medio-legal trial it is necessary to establish the existence of paroxysms, beyond a reasonable doubt by actual observation.

4. That in criminal cases where epilepsy has been shown to exist and there is mental and moral degeneration, the accused should be acquitted, and committed as insane.

5. If a person had been epileptic when a child, or in the past at some time, but the act was not committed near an attack and no mental failure is shown, he is entitled at most to recommendation to mercy.

6. That the convulsion is only an evidence of the disease in the nervous system due to vicious habits, traumatism, or the result of degeneration, usually following an unfortunate inheritance. It is the rule of experience that sooner or later, whether the convulsions are at long intervals or not, there will be mental and moral failure, and he is entitled to merciful consideration.

DR. WILLIAM N. BULLARD deals with "The Care of Epileptics in Private Practice." A certain number of these cases must be treated at home because their attacks are not frequent enough to unfit them for their usual mode of life, because they have means to provide for their own care, because they will not go to an institution, or because there may be no such place within their reach.

In the first place it may be laid down that the bromide salts take first rank in the drug treatment of the disease. But drug treatment forms only a part in its proper management.

In cases where the attacks are not very frequent and there is no apparent mental deterioration, the patients may be allowed to continue their occupation. Care should be taken, however, to avoid mental strain by doing too much in a day, or subjecting the system to too much excitement, fatigue, or worry. It is not a good practice with the adult cases to make too radical changes in their method of life.

In the young who have not formed definite plans of life, it is well to advise an occupation that does not involve much mental effort, and secures a good deal of physical exercise in the open air. Farming in

some form is the most useful, as it furnishes the chief requisites, absence of mental strain, sufficient exercise, and an out-door life.

Great care should be given to the digestive organs. Constipation must not be allowed to occur. The author regards a mixed, plain diet as the best, though he mentions that many withhold meats almost entirely. Much stress is laid upon the fact that epileptics must not be allowed to eat too much. There should never be a sense of fulness, or oppression in the digestive organs. The teeth must be looked after, and only such food given as can be properly masticated. It may be necessary to limit, and, in severe cases, to withdraw table salt altogether. Alcohol should be avoided, and tea and coffee limited, while tobacco may be allowed in moderation.

Epileptics should have sufficient sleep. This should be secured, as far as possible, during the night in regular hours. Naps during the time are bad for these patients, as they tend to disturb the proper sleep at night. An epileptic should not be awakened from the sleep that follows an attack.

Exercise should be moderate, regular, and in the open air. It should not be too exacting, nor producing mental strain. The best way to secure this is by some suitable occupation in the air. Excitement, worry and mental shock must be guarded against.

The bromide of sodium is recommended most highly. When the bromides fail the author has not found much value in other drugs. He sometimes uses the triple bromide mixture, but thinks the bromide of sodium sufficient for nearly all cases. It is best given before meals, and, if necessary, at bedtime. It should be administered with plenty of water. From 30 to 40 grains a day are usually sufficient. The acne can be avoided by means of liquor arsenicalis. Bromism can also be prevented by watchfulness. The treatment may be omitted for a week at intervals. When the bromides and other drugs have failed, the patient should have a course of iodide of potash. If table salt be omitted from the food, less of the bromide salts may be required.

HENRY M. WEEKS, M.D., superintendent, has a very interesting paper on "The Progress of the New Jersey State Village for Epileptics." In the article an account is given of the houses and occupation. These are such as to carry out the most modern methods of treatment.

ALBERT C. BUCKLEY, A.M., M.D., Assistant of the Neurological Department of the Medico-Chirurgical Hospital, Philadelphia, takes for

his topic "The Diagnosis of Atypical Forms of Epilepsy." The writer lays down the rule that the performance of a nervous function becomes easier as it is repeated. This is true in pathology, and the more frequent the attacks are the more readily they are to recur.

From the classic type there are many departures. In some instances the seizures are of such momentary duration that they escape detection for months or years; while in other cases they occur during sleep, the patient only experiencing a muscular soreness in the morning. Minor attacks are usually only of momentary duration, with loss of consciousness, but without spasm. These minor attacks are frequently spoken of by the patient as "faints."

A type of great importance is that in which the patient does some automatic act, during the seizure or just after it. These acts often have the appearance of willed acts. They are, however, quite unconsciously performed. From a medico-legal point of view these automatic acts are of much importance.

In the minor attacks the only events that may occur are that the patient may drop something from his hand, or look for a moment with staring countenance. In the nocturnal attacks all that there may be to guide physicians are the muscular pains, the bitten tongue, some blood on the pillow, or the involuntary evacuation of the bowels.

F. SAVARY PEARCE, M.D., professor of nervous and mental diseases, Medico-Chirurgical College, Philadelphia, and L. Napoleon Boston, M.D., Bacteriologist to the Philadelphia Hospital, have an interesting study of "The Blood in Epilepsy." They conclude that there is an anæmia and a distinct leucocytosis. They mention two instances in which difibrinated blood from epileptics was injected into the veins of other persons, and in both cases epileptic fits followed in the persons injected. The injections were made for pernicious anæmia. They argue that the blood in idiopathic epilepsy must contain some toxine possessing convulsant powers.

CURRAN POPE, M.D., Consulting Neurologist to the Louisville City Hospital, closes the series of articles by an account of two cases of spasms nutans. The first case was that of a child. The nodding of the head began when it was six months old. Careful feeding and good hygienic conditions, with bromide of soda for a year, effected a cure. The second case was seven months old. The treatment consisted in proper feeding, tonics and bromides. The spasms of the head were very pronounced.

CURRENT MEDICAL LITERATURE

MEDICINE.

Under the charge of A. J. MACKENZIE, B.A., M.D., Toronto.

URINARY CASTS.

IN the *Southern Practitioner*, March, there is an interesting article on "Casts and their Significance." The importance of the existence of hyalene casts has been the subject of much difference of opinion, but the weight of authority now inclines to the theory that occurring in the absence of other evidence, they mean a condition indicating a weakness of the structure rather than a diseased condition; and the application of some unaccustomed strain, *e.g.*, cold, exertion, or irritating drugs causes their appearance. The origin of the casts is also of importance. If they come from the spiral and proximal convoluted tubule, as indicated by small and contorted forms, and are accompanied by larger forms which must come from other parts, then the prognosis is more grave.

TREATMENT OF WHOOPING-COUGH.

In *Colorado Medicine*, February, Melvin discusses his experience in an epidemic of whooping-cough. His own cases being 158, with 8 deaths. The deaths, in nearly all cases, seemed to be due to strangling with mucus or spasm of the glottis, and were all in infants, who numbered 36 of the total cases.

A large variety of drugs was tried, but best results were obtained from antipyrine, internally or as a spray, and inhalations of crude carbolic or formalin, by vaporization in the room where the patients were. Relief from spasm, reduction in length and frequency of the attacks of coughing and shortening of the duration of the attack were the advantages which appeared to follow this treatment.

AN UNAPPRECIATED SOURCE OF TYPHOID INFECTION.

In the *Virginia Medical Semi-Monthly*, February 12th, there is a paper by Barringer, in which he discusses the importance of the present closet systems in our passenger coaches in its relation to the dissemination of typhoid fever.

Some of the facts that give weight to the writer's suggestions are

(1) Typhoid is most common at the age when the tendency to railway travel is greatest; (2) Patients suffering from typhoid in the incipient stages are often sent to their homes, involving frequently railway journeys of some distance; (3) Railway employees, especially track-men, are very subject to typhoid; (4) In all cars at present used on American railways for passenger travel, the dejecta from the closets are strewn along the track-bed; (5) In this way it readily becomes a highly infected strip across the country, poisoning by the dust raised by passing trains and by the washing by rain into streams and springs.

This matter becomes of great importance, especially in thickly populated districts, where the railway passenger traffic is heavy.

HOUR-GLASS STOMACH.

In the *British Medical Journal*, Feb. 20th, Moynihan writes on "Hour-glass Contraction of the Stomach." As to etiology, congenital conditions, imperfect development, atavism, abnormal development of muscle strands, etc., are the causes in a large proportion of cases. Acquired causes include perigastric adhesion, chronic ulcer and malignant disease. Perigastric adhesion is generally due to either ulcer of the stomach, or gall-stone disease. Chronic ulceration affects the result partly by contraction of cicatrization, partly anchoring the stomach to the abdominal wall and permitting a sacculation, and partly by spasmodic contraction of the circular fibres due to irritation.

The symptoms and signs are as follows:—

(1) In washing out the stomach part of the fluid is lost and cannot be recovered.

(2) If the stomach is washed clean a sudden re-appearance of stomach contents may take place.

(3) "Paradoxical dilatation" when the stomach has apparently been emptied, a splashing sound may be elicited by palpation of the pyloric segment.

(4) After distending the stomach, a change in the position of the distension tumor may be seen in some cases.

(5) Gushing, bubbling or sizzling sound heard on dilatation with CO_2 at a point distinct from the pylorus.

(6) By giving a seidlitz powder in successive divisions, the upper part of the stomach will be found distended while the lower is dull to percussion till at least a few minutes later.

(7) In some cases, when both parts are dilated, two tumors with a notch or sulcus between are apparent to sight or touch.

(8) When the stomach is filled with water and examined by gastro-diaphany, the upper segment alone is illuminated, the lower remaining dark.

(9) The deglutable India-rubber bag of Turck and Hemmeter is passed and distended—the bulging crest to the left of the middle line.

The treatment is surgical, and varies with the condition found in the individual case.

TREATMENT OF PULMONARY TUBERCULOSIS.

In *Le Bulletin Général de Therapeutique*, 30th January, there is a discussion of the method followed by Marechal, at Nice, for the treatment of pulmonary tuberculosis. An injection is made in the back muscles on three successive days of phosphate of creosote in increasing dose, to be followed on the fourth by a sub-cutaneous injection of $\frac{1}{4}$ c. c. of a diluted tuberculin. When symptoms of reaction have disappeared, the cycle is repeated. The treatment, which has been in use since May, 1903, has had satisfactory results in 33 cases.

SURGERY.

Under the charge of H. A. BEATTY, M.D., M.R.C.S., Eng.
Chief Surgeon Canadian Pacific Railway, Ontario Division, Surgeon Toronto Western Hospital.

SURGICAL TREATMENT OF RECENT FRACTURE OF THE PATELLA.

Edward Martin and T. T. Thomas contribute a paper on this subject in the *Therapeutic Gazette* of February.

Most fractures of the patella are due to a violent contraction of the quadriceps extensor, while the knee is flexed and the patella is resting on the convex femoral condyle. The lower end of the patella is fixed by the ligamentum patellæ, while the quadriceps is pulling at right angles to the anterior surface of the bone.

The ultimate functional results, after fracture of the patella, are fairly satisfactory under any method of treatment which fixes the leg in extension for one or more weeks.

When the joint is normal, the worst that can be expected from purely conservative treatment is a weakness and incompleteness of extension, incident to prolongation of the tendinous expansion of the quadriceps and separation of the patellar fragments, manifested by difficulty in ascending stairs or rising from a sitting posture, and a tendency to fall forward when the toe is caught even by a slight obstruction.

The usual result of conservative treatment is a separation of fragments so moderate as to cause no serious inconvenience.

As most fractures of the patella are caused by muscular action, the fracture is usually single and simple, and the amount of separation of the fragments will depend on the extent of tearing to which the ligamentous structures lying to either side of the bone have been subjected. When these structures are untorn, the separation of the fragments, when the leg is flexed at right angles to the thigh, will not be greater than half an inch, usually not more than a quarter of an inch.

Fragment separation of more than half an inch necessarily implies that the tendinous expansions at the sides of the patella have been torn. The amount of separation when the knee is flexed is roughly indicative of the extent of the tear.

Blow fractures are usually comminuted, are often compound, and the tendinous structures to either side of the patella are usually uninvolved; hence the fragments, though often displaced, are not widely separated from each other even when there is a large effusion into the joint.

The treatment of tear fractures has for its object a union of the patella, either by bone or by a ligament not over half an inch in length.

The treatment of blow fractures has for its aim the bringing into good apposition often many small fragments of bone.

The treatment of fractured patella may be non-operative or operative.

In the non-operative or conservative treatment of fractured patella, one of two methods is usually adopted.

In the first, and most favored method in hospital and private practice, the leg is fixed in extension, and the fragments brought into as close apposition as possible by means of strips of adhesive plaster. This fixation is continued for from four to six weeks, and then the patient is subjected to massage and passive movement. In a patient previously healthy and with a normal joint, as much function as he can expect should be acquired in from six to twelve months.

The second conservative method consists in fixing the leg in extension for from six to ten days and applying about the swollen joint pressure by means of elastic bandages. At the end of ten days vigorous massage is practised, together with gentle passive movements. The claim for this method is a greatly shortened period of convalescence, incident to the rapid absorption of the inflammatory exudate, and an approximation of fragments sufficiently close to insure good function.

Fibrous union results from both these methods, and after both the fragments are likely to become more widely separated with use, though this usually occurs only in such cases as exhibit, at the time of the accident, the symptoms of a wide tear of the tendinous expansions of the quadriceps.

In the operative treatment of fractured patella the following operations are practised:

1. Subcutaneous antero-posterior encircling of the two fragments by means of silver wire—the so-called Barker method. It opens the joint, but provides an inadequate exit for the blood clots which it may contain. It introduces a foreign body into the joint and allows it to remain there. It provides no sufficient means for the removal of the shreds of periosteum which nearly always cover and adhere tightly to the broken bone surfaces. It does not unite the torn tendinous expansions of the quadriceps. The operation has been thoroughly successful in hundreds of cases, and there have been very few instances of infection. Moreover, the operation is simple, and can be completed in five minutes. It requires but few instruments, no technical training, and, if practised under antiseptic irrigation, assures against joint infection, providing the long, curved, blunt-ended needle and the silver wire are sterile.

If indicated at all, it would be for those cases in which the conservative or non-operative treatment is most successfully employed—*i.e.*, simple, single blow, or tear fractures without wide separation.

2. Subcutaneous, peripheral circumferentiation of the patella by a purse-string wire suture. This has its main application in blow fractures which are simple, are extensively comminuted, and are unattended by rapid and great joint distention. Such fractures are rare. This method brings into apposition the broken fragments without endangering their vitality.

3. Free incision and direct bony suture of the patellar fragments, and suture of the torn ligaments on either side. It should be practised as soon as possible after the injury. It enables the surgeon to clean the joint cavity thoroughly, to suture the torn tendons, and to bring the patellar fragments into exact apposition, thus assuring bony union. The patella should be so drilled that the wire does not pass through the cartilage, but gets a fairly good grip on the bone. The whole operation can be completed in less than fifteen minutes. The wound is closed without drainage, and the joint is kept quiet for ten days, after which massage and gentle passive motion are begun, and the patient is allowed

to walk with a back splint. In six weeks the splint can be entirely removed.

The author summarizes the choice of treatment as follows:—

1. The conservative treatment of fracture of the patella is applicable to blow or tear fractures in which the separation of the fragments is not greater than one-half inch, when the knee is flexed to a right angle, and in which there is no great joint tension.

2. All fractures of the patella, independent of the amount of fragment separation, attended by marked and immediate joint tension, should be treated by the open method.

3. All fractures of the patella in which the fragments are separated more than one-half inch, when the knee is bent to a right angle, should be treated by the open method; the torn tendinous expansions of the quadriceps being closed by mattress suture, and the patellar fragments being united by silver wire.

GYNÆCOLOGY.

Under the charge of S. M. HAY, M.D., C.M., Gynæcologist Toronto Western Hospital; Consulting Surgeon Toronto Orthopedic Hospital.

CARCINOMA UTERI.

Dr. Jno. C. Murphy, of St. Louis, in writing on the above subject in the January 30th number of the *St. Louis Medical Review*, says:—

Carcinoma of the uterus is not necessarily a disease of middle life. This fact should be borne in mind constantly, as it is well known that a prompt recognition of the early stage of cancer is necessary to the saving of life. The younger the patient, the more rapid the destruction.

The pathologist, with his microscope, is our main reliance for an early diagnosis.

Kelley reports a case at the early age of 31 years, but says the greatest number occurs between 40 and 45 years of age. In cancer of the body of the uterus, Kelley reports a case at 30 years of age, while here the greatest number occurs between the ages of 50 and 55 years. Dr. Murphy reports one case of cancer of the cervix in a patient only 25 years old. In fifty cases of epithelioma of the cervix, in every instance the patient was married, and forty-nine of them had borne children. Kelley has only seen three cases of cancer of the cervix in his entire experience in nulliparous women, and in one of the cases the cervix had been forcibly dilated.

Statistics teach us valuable lessons in prophylaxis. It will be seen

that cancer of the cervix is essentially a disease of married women. Pregnancy and the trauma of labor play an important part in the after production of cancer.

He is fully convinced that if the obstetricians would take more care in the after treatment of their cases, and have all injuries to the pelvic floor and cervix properly and promptly repaired, carcinoma of the cervix would be much less frequent than it is to-day.

The reviewer makes it a rule to ask all his obstetric patients to come to his office in 6 or 8 weeks after delivery that he may determine the exact position and condition of the uterus.

HOW TO SELECT, FIT, AND INSERT A PESSARY.

In the October number of the *Medical Critic*, Dr. A. Ernest Gallant writes on the above subject as follows:—

Of pelvic ills from which womankind suffer, uterine displacements outnumber all others, not only in frequency and as a source of misery, but also as the most obstinate and difficult to cure. We may relieve them, but a positive cure, anatomic and symptomatic, can but rarely honestly be promised, either by mechanical or operative means.

It is a mechanical impossibility for a normally anteverted uterus, as it bridges over the vaginal outlet, to prolapse. But when the uterus becomes retroverted, it resembles a wedge, the apex pointing downward, then the intra-abdominal pressure applied to its base (the fundus) gradually drives it downward toward the vulva.

The diagnosis of displacement of the uterus can be most easily determined by digital examination.

Next ascertain the degree of uterine mobility. In most acute cases a displaced uterus can be easily replaced, held in position by tampons, later by pessary, and after a few months will remain *in situ* without support. In cases of old standing displacement, even though the organ is readily replaced and retained by support, it will shortly resume its abnormal position after the support is removed.

When carefully conducted efforts toward releasing an adherent uterus fail to secure the desired results, or when pus tubes, ovarian or broad-ligament cysts or other neoplasm are present in the pelvis, lifting efforts are positively contra-indicated, and the use of pessaries must not be attempted, but persistent use of ichthyol-glycerine tampons will give comfort and defer operation.

Having intelligently selected the case, and by preliminary local treatment eliminated all tenderness, the successful use of a pessary will

depend upon the good judgment displayed in selecting one of appropriate style and size.

In nulliparous married women, the Hodge or Albert Smith pessary answers all purposes, also for virgins. Women who have borne children, who have a relaxed pelvic floor, a lacerated perineum with more or less rectocele and vesicocele, require a pessary which has been widened and shortened, and possesses a less acute angle. Some with extreme relaxation of vulva must be supplied with a round, solid rubber ring, or a hollow, hard or soft rubber pessary.

To determine the size and shape of a pessary, introduce two fingers within the vagina (the patient being on her back), and note the width of the posterior portion of the pubic arch. Separating the fingers, ascertain the width of the mid-vaginal canal, also the length of the vaginal canal from the pubic arch to the apex of the posterior fornix, when the cervix is pushed backward and the fundus lies forward, and decide upon the proper curve while the uterus is held in the desired position.

Solid hard rubber pessaries may be moulded into almost any shape if placed in boiling water for one or two minutes, and then pressed into the shape desired, and at once plunged into cold water.

To insert a pessary: (1) introduce the index finger of the left hand within the hymen and draw the perineum well backward; (2) hold the pessary by its broader end between the thumb, index and middle fingers of the right hand, introduce the pessary sideways two-thirds of its length through the vulvar slit, relax the hold on the lower end, and, with the right index finger against the upper bar, carry the pessary along the right vaginal wall and rotate it posteriorly, so that the cervix slips within the upper end.

When the pessary is in position, the vaginal wall should never be tense, the lower bar must lie just behind the symphysis, invisible at the vulva, it should be somewhat movable up and down, and free from discomfort during coition, and the wearer must not feel conscious of its presence. It should be removed frequently and the vagina examined for pressure points, also for the purpose of cleansing the instrument.

A NEW METHOD OF CLOSING THE ABDOMEN.

Higgins, in the *Boston Medical and Surgical Journal*, describes his particular method of closing the abdominal wound, and also gives his objections to both the layer suture and mass suture methods in vogue. He first introduces mass sutures of silkworm gut which remain untied. Then the peritoneum is closed by a running suture of fine unchromicized

catgut, the fascia by twenty-day chromicized gut, and the skin with a subcuticular suture of fine silkworm gut or horsehair. The mass sutures are then tied over a metal guard, which is separated from the abdominal wound by gauze. This guard, the author's special feature, is a plain piece of thin metal, the object of which is to prevent the mass sutures from cutting through the skin.

X-RAY THERAPY AND SKIAGRAPHY.

Under the charge of JOHN McMASTER, B.A., M.D., C.M., Toronto.

X-RAYS AND RADIUM RAYS COMPARED.

In the *Boston Medical and Surgical Journal* of February, Dr. Francis H. Williams makes a comparison between the uses of x-rays and the rays from the salts of radium in both medical and surgical cases. The diagnostic uses of the x-rays are enumerated. They aid the surgeon in determining the location and nature of fractures, diseases of bone, the location of foreign bodies, the presence or absence of most varieties of calculi in the bladder, ureters and kidneys, and the presence of calcareous deposits in glands. In medical diagnosis they are of even greater value. Aneurisms of the aorta in the early stage can be detected more certainly than by any other means. Growths in the mediastina, the size and position of the heart, central pneumonias, fluid in the chest, and the extent of the movements of the diaphragm are clearly shown by the fluoroscope. The presence of foci of tubercular deposits in incipient phthisis can be recognised by the skiagraph before there are any definite physical signs. He emphasizes the value of this. It enables the physician to place his patient early in the most favorable position for recovery, thus often greatly shortening this period in successful treatment.

The therapeutic uses of the x-rays are referred to as being manifold. It will relieve the pain of intercostal and other neuralgias, as well as that due to cancer. Chronic skin diseases of almost all varieties are cured by their use. Superficial growths and skin cancers, especially face cancers, are removed with but little scarring. Lupus in all its forms, whether of recent occurrence or after many years of ravaging, can be exterminated rapidly.

The rays of the radium salts are of three varieties, classified by Rutherford as alpha, beta, and gamma. The alpha rays are very readily absorbed, and cannot be used for skiagraphing. The beta and gamma rays, when used jointly, produce radiographs which are wanting in detail; they show no differentiation between the tissues. The gamma rays alone are possessed of much penetrating power. They show some indication

of the bones, but the results are far below those obtained by the x-rays. The time required is also many thousand times that needed for taking a skiagraph by the x-rays. In fluoroscopic examinations the gamma rays will show the presence of pneumonia or pleuritic effusions. The beta rays ought to be cut off by an aluminum screen, otherwise there is great danger of burning the patient, the beta rays being transformed in the surface tissues. It is, therefore, only in the field of therapeutics that we look for radium salts to be of value. The radio-activity of the radium salts is estimated by comparing it with that of uranium as a unit. The weaker specimens of radium salts, which are easily obtained, range in radio-activity from 1,000 to 8,000 or much higher, but the pure radium salts, which can be had with difficulty, have a radio-activity of 1,500,000.

The use of the weaker salts has been abandoned as inefficient. He used the pure radium bromide in 50 cases, in amounts varying from 10 to 100 mgm. They were mostly all skin diseases. One of acne was cured by radium. Two cases of psoriasis were treated in certain areas by radium, and in others by x-rays for purposes of comparison. Healing took place much more quickly in the parts exposed to the radium. Five cases of lupus vulgaris were treated, two being cured and the others are doing well. In one of these cases a comparison was made, as above, and again in favor of the radium rays. The same was true of one case of keloid. In two cases of eczema, the radium rays failed and the x-rays were applied. Four out of five cases of rodent ulcer have healed. In the fifth case, which was very extensive, the x-rays were effective in curing a recurrence, after an operation, but later an extensive recurrence developed which the x-rays did not, and which the radium rays may not, heal. But the radium has checked the growth of the rodent ulcer, and arrested the rapid loss of strength of the patient. Here the radium appears to be the more efficient. Half of the twenty-eight skin carcinomas have healed, and thirteen are still under treatment. Out of four breast cases, three were recurrences after operation. The radium diminished the indurations in the scar or neighborhood, and appeared to be more effective than the x-rays.

In some cases the radium rays acted as an analgesic.

It is evidently the beta rays which play the greater part in the healing process, rather than the gamma, although the latter may contribute. The gamma rays, even on long exposures, produce no irritation, whereas the beta rays may do so after one minute's exposure. Burns result from radium rays as from x-rays, and they are said to be very difficult to heal. Patients vary in susceptibility to the effects of radium salts, and the dose must be gauged to suit the individual.

OPHTHALMOLOGY AND OTOLOGY.

Under the charge of G. Sterling Ryerson, M.D., C.M., Professor of Ophthalmology and Otology, Medical Faculty, University of Toronto.

THE MODERN MASTOID OPERATION.

Macleod Yearsley, F.R.C.S., has an interesting article in the *London Medical Times*, on "The History and Development of the Mastoid Operation. The operation, he says, is quite a modern procedure in surgery. It is one of those great advances in surgery which we owe to the last quarter of the 19th century; for, although the simple opening of the mastoid antrum may be assigned to a much earlier date, the complete operation is a development of the last ten or fifteen years. Historically, the first operation was performed by Riolanus, in 1649, who suggested it for the relief of obstruction of the Eustachian tubes, but the earliest mention for evacuating pus was in 1750, by Petit. Until 1791, opening of the mastoid was in vogue for the relief of deafness; but bad results caused it to fall into disrepute. In 1792, Arneman, of Göttingen, laid down the following rules for the opening of the mastoid.

1. In cases of absolute deafness which is progressive and otherwise incurable.

2. In caries and collection of pus in the mastoid.

3. If the normal mucous secretion has become hardened or collected in excessive quantity.

4. In persistent pain and noise.

5. In Eustachian obstruction, not remedied by injections.

It was not, however, until 1860, nearly seventy years later, that Toynbee wrote that, although he had never performed the operation, he would not scruple to do so where life was concerned. About the same time Forget and Von Tröltsch spoke in its favor, and between that date and 1870, successful cases were published by Hinton and others. Schwartze, of Halle, was really the first to elaborate the technique and indications for the operation. Since Schwartze's first communication of fifty-nine cases progress has been rapid, but it was not until 1897 that Stäcke published the monograph which detailed his method. Hence has arisen the "Schwartze-Stäcke" complete post aural operation. Latterly, it has been further improved by skin grafting the cavity, by Ballance.

The operations in vogue among modern otologists are two, viz: (1) Simple opening of the antrum; and (2) The complete post aural operation, which consists in throwing the meatus, tympanum, attic and antrum, into one large cavity, lined with epithelium obtained by means of flaps cut from the cartilaginous meatus, supplemented with skin grafts. Yearsley describes the indications for opening the mastoid as follows:—

A.—Acute cases. (1) Acute middle ear suppuration, with mastoid involvement. (2) Influenzal mastoiditis. (3) Acute middle ear tuberculosis.

B.—Chronic cases. (1) Caries of the tympanic walls. (2) Recurrent attacks of acute or subacute mastoiditis. (3) Mastoid fistula, leading to carious bone. (4) Cholesteatoma. (5) Meatal hyperostosis. (6) Obstinate mastoid neuralgia. (7) Chronic middle ear tuberculosis. (8) Protracted suppuration resisting other forms of treatment. (9) Vertigo occurring in course of middle ear suppuration. (10) Facial paralysis, occurring in course of middle ear suppuration. (11) Necrosis. (12) Bezold's mastoiditis. (13) As a preliminary step in operations for intracranial complications. In acute cases, the simple or Schwartze's operation is performed.

In ordinary cases of suppuration in antrum, the simple opening is sufficient to give relief to the symptoms. In the influenzal mastoiditis, the process may be so rapid and severe as to destroy the whole mastoid and middle ear. Unfortunately, partly from non-recognition of the destructive nature of the disease, and partly from the patient's repugnance to an operation, many cases are allowed to proceed until a complete post aural operation becomes necessary.

In chronic cases a simple opening is not sufficient; the most thorough eradication of the disease is necessary by the Schwartze-Stäcke method. The grafting requires, in most cases, a second operation, to which patients decidedly object. It is, therefore, necessary in many cases to graft at the time of the first operation, even though the results are said not to be so good. In the case of young subjects and large cavities, Yearsley prefers to graft.

ENUCLEATION AND ITS SUBSTITUTES.

This question is discussed by Harold B. Grimsdale, F.R.C.S., in *The Medical Times* of December 19th, 1903.

Grimsdale states that it is called for not only on account of disease, which might by extension endanger the patient's life, but much more commonly to prevent the possibility of the loss of the uninjured eye by sympathetic inflammation.

The fear of sympathetic ophthalmia has, no doubt, often caused surgeons to excise eyes which might have recovered some degree of vision; but it cannot be doubted that it is better to sacrifice a badly damaged eye than run any risk of total blindness. The treatment of sympathetic ophthalmia is so uncertain, and the prognosis is so bad that it cannot be wondered at that patients are often pressed to submit to immediate removal.

But if we are to avert the loss of both eyes, we must endeavor to minimize the resulting deformity; hence, enucleation as a simple operation is gradually losing ground, while some other substitute is taking its place.

The disadvantages of enucleation are entirely connected with the after results. It is easy of performance, is almost free from risk and requires little time for recovery. The deformity which follows arises from the shrinking of the parts, while the upper lid falls back into the orbit and movement of the artificial eye is restricted. The vacant, staring look is very noticeable, the secretions roughen this artificial eye, which gives rise to chronic conjunctivitis. Lastly, this perpetual irritation gives rise to chronic inflammatory changes in the subconjunctival tissues and capsule of Tenon. When a simple enucleation has been performed the surgeon may be asked to remedy the resulting difficulty. Three methods are open to him: 1. He may attempt to improve the existing stump by dissecting up a pocket of tissue and inserting a glass sphere. This may improve appearances but not movement. 2. An almost similar effect may be obtained by using Snellen's "reformed" eye. 3. By wearing a convex glass before the eye, the eye may be made to appear more prominent. None of these devices are entirely satisfactory.

Evisceration was first employed by Frohlich in 1881. The cornea is excised and the interior of eye scraped out. The tissue shrinks to a button.

Mule, in 1884, proposed to place a glass sphere in empty sclerotic and thus make a prominent stump of empty sclerotic. In some 30 per cent. of the cases the sclerotic eventually gives way and the glass ball works out. Fox, of Philadelphia, advised cutting cornea across instead of excising it. The results have been much better under this method. The length of convalescence is a serious drawback, but the movements of the eye are very good.

The other method was suggested by Frost, in 1885, and is now much used—and is called implantation. The eye is excised in the ordinary way; immediately afterwards a glass sphere (may be of gold or silver) is placed in the hollow of the capsule of Tenon and is stitched in. The results are fairly good. Reaction less than Mule's operation and convalescence shorter.

Lately it has been proposed to inject parafin into the capsule of Tenon. This has been done with fair success.

Some continental surgeons have tried the transplantation of the rabbit's eye but without success.

Such are the substitutes for enucleation.

LARYNGOLOGY AND RHINOLOGY.

Under the charge of PERRY E. GOLDSMITH, M.D., Belleville. Fellow of the British Laryngological, Rhinological and Otological Society.

POST-MORTEM OBSERVATIONS ON TUBERCULOUS DISEASE OF THE LARYNX.

Dr. Jobson Horn makes the following statements with reference to tuberculous disease of the larynx:—

1. When the larynx is infected with tubercle, the disease is already established in the lungs.

2. That by the time the disease in the larynx has advanced to ulceration, the disease in the lung has advanced to cavitation.

3. When the disease in the lung is confined to the pure miliary form, the larynx is never infected.

4. The infection of the larynx is from the sputum.

A CASE OF MUCOCELE OF THE FRONTAL SINUS.

Morani, in the *Journal of Eye, Ear and Throat Diseases*, gives symptoms referable to the eye as ptosis and displacement of the ball downwards and outwards. The eye was not impeded in its movements except above D.V. = 20/200. The disk showed a beginning neuritis. Palpation disclosed a tumor at the roof of the orbit. The swelling was non-movable, appeared adherent to the periosteum, and was hard. Retrobulbar neoplasm was diagnosed. Incision was followed by the escape of a coffee-colored muco-colloid substance. The tumor was directly connected with the frontal sinus through its inferior orbital wall. After treatment of the sinus all the eye symptoms subsided.

THE TREATMENT OF ADENOID VEGETATIONS.

Dr. John Winslow, in the January number of the *Journal of Eye, Ear, and Throat Diseases*, has a very practical paper on this subject. The question as to the advisability of removing adenoids whenever present, is discussed at length. He does not favor removal if the mass is small and producing no symptoms. If on the contrary the growths are found to interfere with any of the physiological functions of the parts concerned, our duty is to remove them, else irreparable damage ensues. A statement of far-reaching importance is made. In cases of adenoids, associated with even slight retraction of the membrani tympani, with or without noticeable dullness of hearing in early life, there will certainly be some impairment of this function in middle life. A large proportion of cases of dullness of hearing occurring in middle life is due to post-nasal catarrh from neglected adenoids in youth, of which the

remains may still be present in the naso-pharynx. The author draws attention to a frequent mistake—diagnosing and even operating on a subacute congestion of the lymphoid tissue of the naso-pharynx of catarrhal origin. This subsides under astringent treatment alone as a rule, while true hypertrophy always requires operation.

THE RELATIONSHIP OF DISEASES OF THE BRONCHI AND LUNGS TO THOSE OF THE NOSE AND THROAT.

Thomas, *Southern Californian Practitioner*, points out that catarrhal affections, for instance of the upper air passages, are not limited to a circumscribed area; they display on the contrary a peculiar descending character, beginning in the nose as an acute rhinitis and invading at certain definite intervals the pharynx, larynx and bronchial tubes. The importance and desirability of proper nasal breathing is fully explained, and the evil effects of mouth breathing shown. Diseases of the lungs may own their origin to direct extension of disease of the upper air passages, as for instance, chronic bronchitis may result from chronic atrophic catarrh or from suppurative processes in the nose, its accessory cavities, or the post-nasal space. Under such circumstances the bronchitis may prove very obstinate, especially if pus trickles down from the naso-pharynx into the deeper air passages and sets up a chronic irritation which may extend to the trachea, bronchi, lungs, or pleura. On the other hand purulent disease of the lower air passages may set up a chronic laryngeal or pharyngeal catarrh, the intensity of which is in direct proportion to the amount and consistency of the expectorated material, and to the amount of effort required to expel it. Mention is also made of the paralysis of the recurrent laryngeal nerve due to enlarged glands from lung disease.

THE IMPORTANCE OF EPISTAXIS IN THE DIAGNOSIS OF NASAL DIPHTHERIA.

Jas. H. McKee, *The Therapeutic Gazette*, in a paper on this point insists that tinging of the nasal discharge with blood is not exceptional in nasal diphtheria, but is the *rule*. Nasal diphtheria may or may not cause severe systemic disturbance, though when confined to the posterior nares, it usually severely prostrates the patient. The author cites several cases in which there were supposed to be foreign bodies in the children's nostrils, since there was unilateral discharge with obstruction, which on examination proved to be cases of nasal diphtheria. McKee asks the acceptance of the following views:—

1. The slight staining of the nasal discharge with blood, either in subacute or severe nasal diphtheria, would seem to be due to the *severity*

of the local process. The nasal mucous membrane, highly vascular as it is, bleeds upon very slight provocation.

2. The slight or moderate hemorrhages which may occur in more acute cases are probably dependent upon the toxemia.

3. The alarming and even fatal hemorrhages observed in severe diphtheria are always dependent upon the profound toxemia.

4. Nose-bleed is a symptom of much diagnostic value, for it may suggest the possibility of nasal diphtheria.

THE CONNECTION BETWEEN TUBERCULOUS GLANDS AND THE TONSILS.

Dr. Havilland Hall, in a discussion on the upper respiratory tract as a source of systemic infection, has the following to say on this question: "Until recent years it was generally believed that the tonsils were but rarely affected with tuberculosis, and then usually only superficially as the result of extension from pharyngeal tuberculosis, but Dr. Hugh Walsham has shown that out of 39 consecutive post-mortem cases the tonsils were found to be more or less tuberculous in 20. The examination of enlarged tonsils and adenoids removed during life has not had equally marked results. The discovery of the liability of the tonsils to tuberculosis infection has thrown quite a new light on the subject of tubercular disease of the cervical glands, and emphasizes the importance of removing enlarged and honeycombed tonsils, by means of which all kinds of noxious germs may enter the system. The tonsils probably become infected by tubercle bacilli in children who crawl about and get their hands covered with dust and dirt, and then infect themselves by sucking their fingers. Sucking dirty toys is another source of infection. Some bacilli may gain access to the tonsils in swallowing tuberculised milk, or, in respiration, the air containing the bacilli may deposit them on the surface of the tonsil. The potentiality of the tonsils as a source of tubercular infection is great. Not only are the faucial tonsils the seat of primary infection by the tubercle bacillus, but also the pharyngeal tonsil may be the part first affected.

It has been shown that pulmonary tuberculosis is essentially a "filth" disease, that is, that it depends on impure air. The aerial dangers are three in number: first the presence of tubercle bacilli, without which, of course, tuberculosis could not arise; second, dust in the air; and thirdly, gaseous impurities. Dust in the air, especially minute fragments of mineral matter, by damaging the epithelium of the air passages, allows a point of entrance to the bacilli, and gaseous impurities, especially carbonic dioxide, by diminishing the protective power of the lymph glands, favor the growth of the bacilli.

PROVINCE OF QUEBEC NEWS

Conducted by MALCOLM MacKAY, B.A., M.D., Montreal

Dr. R. Tait Mackenzie read a paper and gave a demonstration at the Montreal Medico-Chirurgical Society, upon the relation of the thoracic type to the lung capacity. He stated that there were two well-marked types of chest: first, the broad and flat thorax, typical of the vaulter, jumper and hurdler; second, the round barrel-shaped thorax found in the wrestler, swimmer and boxer. A large number of people occupied an intermediate position, as the two types gradually merged, but nevertheless the majority could be classed according to the relation between the breadth and depth diagramatically represented by a rectangle. A fair representation of the classes would be given by rectangles 12.3 ins. by 6.2 ins. and 9.7 ins. by 8.5 ins., the capacities being 260 and 265 cub. ins. respectively.

Before proceeding to give the results obtained by measurement, Dr. Mackenzie illustrated the mechanism of respiration by using as model a student who had the splendid expansion of eight inches. In this way he was able to demonstrate very clearly the elevation and outward rotation of the upper ribs, as well as the raising of the upper end of the sternum, and the rotation of the ribs on their long axes.

The lecturer then went into the question of lung capacity in relation to the type of chest, basing his statements upon observations of 500 students, candidates for athletics at McGill University, the observations having extended over a period of six years and not taken with any definite object in view. The following seven measurements were taken in each case:—

1st. The depth of the thorax quiescent, at nipple line, measured by calipers.

2nd. The breadth of the thorax quiescent muscles relaxed at same level, measured from behind with sliding calipers. The relation of these two measurements gave the thoracic index, the average being 68 per cent.

3rd. The girth of the chest in forced expiration above the nipple line.

4th. The girth of chest in forced inspiration above the nipple line.

5th. Girth of thorax in expiration below the pectoral line.

6th. Girth of thorax in forced inspiration at same level.

7th. The capacity of the lungs by the wet spirometer in cubic inches.

A table was made containing all those whose thoracic index was above 68 per cent. Out of the 500, 94 such men were found with an

average of of 259.3, or 7.7 cubic ins. above the average capacity of the whole 500. A second table, containing those whose index was below 68, had 58 names, and the capacity was found to be but 243.7, or 7.9 cubic ins. below the average of the 500.

The men were selected as types of their classes, and their weight differed only by a pound, and their height (sitting) by a fraction of an inch.

Looking at the question from an æsthetic point of view the lecturer found that the measurement of a number of the finest Grecian statues, representative of the highest ideals of manly beauty, were very distinctly of the deep thoracic type, as for example the Hermes of Praxiteles, which had an index of 79.

Drs. Birkett and Nicholls reported the very rare condition of otomycosis, due to aspergillus glaucus. The patient, æt. 40, had complained of deafness for three months. Thinking it due to wax, he had been using injections by a syringe, but as the itching and tinnitus became intolerable he consulted Dr. Birkett. Examination showed that the man was practically deaf in one ear—namely, hearing of " watch on contact." Inspection showed a dark mass of dirty epithelium in the auditory meatus, covered with a layer of dark greenish substance which looked like mould. Removal and microscopic examination showed it to be an aspergillus of some nature, and it was handed over to Dr. Nicholls for further investigation. The ear was treated with alcohol and boric acid with rapid relief from all the symptoms, and now some three months later there has been no recurrence.

Dr. Nicholls reported that the mould submitted for examination was placed on various media of which potato was the best. At first the growth presented a whitish appearance, but later became green. The mycelium and sporangium were also found to be typical of the aspergillus glaucus, a very fine specimen being placed under the microscope for demonstration. A specimen of aspergillus nigricans was also shown for the sake of comparison with the glaucus. On testing the pathogenicity of the mould, Dr. Nicholls was surprised to find that contrary to the accepted view a rabbit was killed within 48 hours of an injection with an emulsion of the aspergillus.

The mycelium was found in the liver and other organs in distinct patches, and the mould was recovered and cultivated from these metastatic growths. As far as the literature could be examined no other case had been reported in America, and but one, rather indefinitely, in Europe, although the nigricans had been frequently noted.

Drs. Buller and Beyers exhibited a number of specimens of pathological conditions of the eye preserved according to the Greff method.

Dr. Beyers emphasized the simplicity of making the preparations and their permanent character.

Dr. Elder reported a case of acute intestinal obstruction following syphilitic ulceration of the ileum. The patient was a laborer, æt. 23, admitted to the Montreal General Hospital, August 20th, 1903, for ulceration of the left eyelid. A few hours after his admission he developed acute abdominal symptoms with sharp pain at the umbilicus shortly after going to stool, and accompanied by rectal tenesmus and nausea. The abdomen was distended and rigid on examination, although tenderness was not marked. There was no vomiting, but the patient was becoming rapidly worse. Operation with a median incision was at once carried out. Some fluid was found in the abdomen and the colon was collaped. The appendix was normal, as well as the Peyers patches, and no glands were enlarged. Two and a half feet from the ileo-cæcal valve the omentum was adherent to the bowel, and above this point the gut was distended and apparently full of blood.

A firm nodular mass could be felt in the bowel, and a resection was done with end to end anastomosis. The abdomen was closed with drainage. On examination of the resected part an old ulcer was found at the mesenteric attachment with an eroded area; a hemorrhage had occurred beneath the mucosa, and this together with the old scar tissue had been sufficient to produce sudden obstruction. The ulcer of the eyelid cleared up under potassium iodide and mercury, and some time later when the patient again came complaining of abdominal symptoms they at once ceased under specific treatment, which had in the meantime been neglected by the patient. These points, with a definite history of syphilis and characteristic appearance of the ulcer, were considered to be sufficient grounds for the diagnosis.

Dr. Alex. Hutchison read a long and very complete paper upon fracture of the patella with a report of seven cases. Five of these men were exhibited to the members of the society, and complete restoration of function was seen in all but one. This one had been treated by the non-operative method, and was unable to walk down stairs without holding on to the banister. The others had been operated upon by the open method with particularly pleasing results. X-ray photographs, before and after operation, were shown in each of the seven cases. Dr. Hutchison thought that his series was not large enough to draw any definite conclusions, but combining it with lists prepared by other men he thought that in the case of a man whose daily bread depended upon a sound limb the open method was best to follow, when all precautions could be taken for strict asepsis.

MEDICAL SOCIETIES AND GATHERINGS

TORONTO MEDICAL SOCIETY.

A regular meeting was held March 10th, 1904. Dr. Silverthorn, the President, was in the chair. Drs. Stuart and McKichan were proposed for membership. Dr. J. T. Duncan read a paper "Notes on Gould's Biographic Clinics," and Dr. Clarkson read a paper, "A Case of Puerperal Sepsis treated with Antistreptococcic Serum."

Regular meeting, March 24th, 1904. The President occupied the chair.

This meeting was held at the Toronto Western General Hospital. Drs. Stuart and McKichan were elected to membership.

Dr. Price Brown showed: (*a*) The case of laryngeal tuberculosis shown here a year ago. At that time he was cured and was working four hours a day, but now he was at work the full eight hours. The patient is still wearing the tracheotomy tube; (*b*) The case of nasal sarcoma seen here also a year ago. He is not entirely cured, as where the snare was used there has been some return, but none where the cautery was used; (*c*) A case of nasal synechia and the splint used. This was a piece of plain rubber, solid and smooth, such as is used for erasure purposes; (*d*) A case of antral disease and the rubber drain, which was made of soft tubing with ends rolled back to prevent its slipping in or out.

In the discussion, Dr. Todd asked if in case (*a*) there had been any other treatment than fresh air. Dr. Ryerson asked the present condition of the larynx. In reply it was stated that tonics and menthol spray had been used; the epiglottis was only half there, and that was bound down by adhesions.

Dr. B. E. McKenzie showed: (*a*) A case of Dr. Hooper's, age 70, fell down stairs into the cellar, sustaining a transverse fracture of the tibiæ. These were put up in plaster splints and the patient allowed up and about; (*b*) A boy, 11, while tobogganing, struck a tree and had a fracture at the junction of the upper and middle thirds. Under anæsthesia it was found impossible to make it as long as the sound side. This was also put up in plaster.

Dr. Oldright remarked that the best dressing yet made to the shoulder and humerus was the Aikens splint. In the thigh he would hesitate before he would give up the weight and pulley where there was

never more than half an inch shortening; there was enough give in the cotton under the plaster to allow of shortening. Dr. Hay said that he had two cases to report with no shortening, and the plaster was much more comfortable. Dr. Carveth said that sometimes the plaster would not set. He asked why this should be. The President asked if any precautions were taken in putting on the plaster.

Dr. McKenzie said the Aikens splint was good. What was known as book muslin was the best for the bandage, and the plaster should be thoroughly dry.

Dr. T. S. Webster showed a woman from whom he had removed the ovaries, and showed them as specimens. They were cystic, and the operation had been by the vagina. The patient was sitting up on the second day.

Dr. Ashton Fletcher showed a woman, aged 67, who had lost the great toe of the left foot by gangrene, due to embolus. There was a condition of general arterio-sclerosis, and there had been two slight hemorrhages in the brain with partial paralysis, which had been absorbed to the extent that there was now no inconvenience. The separation had been secured, in the foot, without smell, by keeping the foot under a dressing of soap jelly, made from the soap known as the H. and H., which is alkaline.

Refreshments were served by the Lady Superintendent and a number of the nurses.

Regular meeting, April 13th, 1904. Dr. Bryans occupied the chair.

Dr. McPhedran reported a case of sero-pneumothorax.

Dr. Dwyer said that he had seen a case of pyo-pneumothorax, extending over a period of 10 years, with one side of the chest full of pus during that time; he had come into the hospital with a third attack of hemiplegia. Dr. Carveth asked what effect the condition would have in considering the question of an anæsthetic for surgical work. Dr. F. N. G. Starr asked the effect of an artificial pneumothorax for the cure of recurrent effusion. He reported three cases of benefit from this procedure. Dr. Rudolf said that cases of pyo-pneumothorax should be left alone until the pus gave rise to disturbance, as the tubercular processes were much more rapid.

Dr. McPhedran said that he would be very reluctant to give an anæsthetic. In regard to what Dr. Starr had said he related a case which had done well at first, but the trouble returned for three months and then gradually got well. Dr. Bower, of Liverpool, was injecting adrenaline successfully.

Dr. Dwyer reported a case of carcinoma of stomach with specimen.

CANADIAN MEDICAL ASSOCIATION.

As previously announced through these columns the thirty-seventh annual meeting of the Canadian Medical Association will be held in Vancouver, B.C., from the 23rd to the 26th of August. Definite rates have been arranged for as regards points east of Port Arthur, and the General Secretary is in communication with the C.P.R. officials in Winnipeg regarding the latter, which when arranged will be announced in due time. Although the official circular from the railway companies has not yet been received it is expected that the date of sale of tickets will open on the 15th of August, and following days; the time limit will be two months, and will not be extended beyond that. Tickets will be sold only to delegates and immediate members of their families, on presentation of certificate from General Secretary of the Canadian Medical Association, and those who have not already done so should file their names with that official at an early date. Under the arrangements made tickets will be good going via Canadian Pacific direct, via Port Arthur or via Sault St. Marie, St. Paul, thence Soo-Pacific Route, Great Northern and Northern Pacific, returning same route or any other of the above routes. Returning, diversion can be made via St. Paul to St. Louis at an additional cost of $10.00 and from St. Louis to Detroit, where travellers will rejoin either C.P.R. or G.T.R. to their homes according as tickets read. Should any wish on return journey to visit the Yellowstone Park they can do so on payment of the extra charge made for the trip through the Park from the junction with the Northern Pacific Railway. Later information will be forthcoming re this. No other arrangements have been made so far, but the General Secretary is in communication with the Union Pacific to provide for return via California, Salt Lake City, Colorado, etc. If these arrangements can be made they will be announced in due time. If any arrangements are made for special train these will be announced in due and proper time. The following gives an approximation of the rates from all points east of Port Arthur: Toronto, Brantford, Hamilton, Windsor, Chatham, London, Stratford, Guelph, Orillia, $62.40; Montreal, Ottawa, Brockville, $68.00; St. John, N.B., $76.50; Halifax, via I.C.R., $81.00; Sydney, $83.70. Winnipeg and points in Manitoba, $45.00, but full arrangements for this have not as yet been fixed. One certificate only will be required to be presented by delegate for his own use and the immediate members of his family, and those only who file their names with the General Secretary can be sent these certificates. The berth rate to Vancouver in each direction from Toronto and Montreal is $17.00 and $18.00 respectively. Mr. Mayo Robson is to be a guest of the Associa-

tion as well as Dr. J. W. Mayo, Rochester, Minn., and probably Professor Marmorek, who is to be the guest of Dr. A. J. Richer, Montreal, during the coming summer. In addition to this already a fine list of papers has been promised, titles and names of which will appear in future issues of this journal. Those contemplating attending should send in their names without further delay to the General Secretary, Dr. George Elliott, 129 John Street, Toronto.

ONTARIO MEDICAL ASSOCIATION.

The 24th annual meeting of the Ontario Medical Association will be held in Toronto, in the new Medical Buildings, Queen's Park, June 14th, 15th and 16th, 1904.

If you desire to read a paper, kindly forward the title to the Secretary by May 15th.

Papers must be in the hands of the Committee by May 31st.

Fifteen minutes are allowed for the reading of a paper. If too long to be read in this time an abstract may be presented.

An outline of the provisional programme includes the following list of papers :—Prophylaxis of Diabetic Coma, Dr. John Caven, Toronto ; Uncertainties of Diagnosis and the Necessity of Early and Vigorous Treatment of Diphtheria, Dr. McMahon, Toronto; Anæmias more than Ordinarily Severe, Dr. Frank Trebilcock, Enniskillen; Modified Smallpox, Dr. Chas. Hodgetts, Toronto ; Electro-Therapeutics, Dr. Lipsey, St. Thomas ; Functional Heart Murmurs, Dr. Rudolf, Toronto; A Case of Landry's Paralysis, Dr. Hugh McColl, Milton; Inflammations of the Larnygeal Apparatus, Dr. G. H. Burnham, Toronto ; A Discussion of the Subject of Life Insurance from the Standpoint of the Expectancy of Life in Conditions of the Various Systems, to be participated in by Dr. E. Ryan, Kingston ; Dr. R. J. Dwyer, Toronto ; Dr. H. R. Frank, Brantford ; Dr. B. L. Riordan, Toronto ; and, it is hoped, two physicians associated with large Insurance Companies in Canada ; A Restatement of the Attitude of the Profession Toward Placenta Prævia, Dr. McIlwraith, Toronto ; Myxomatous Degeneration of the Chorionic Villi, Dr. C. J. Hastings, Toronto ; Occipito-Posterior Positions in Obstetric Practice, Dr. A. A. Macdonald, Toronto ; Anomalies in Fœtal Development, with exhibition of specimens and descriptions of cases, Dr. J. Peters, Hamilton, and Dr. F. J. R. Forster, Caistorville ; Clinic upon Diseases of the Skin, Drs. McPhedran and H. B. Anderson, Toronto; An Exhibition of the Methods of Intestinal Anastomosis, dealing especially with the Elastic Ligature, Dr. N. A. Powell, Toronto ; Tumors of the Prostate Gland, Etiology, Symptoms and Pathology of, Dr. F. W. Marlow, Toronto, and Surgical Relief of, Dr. G. A. Bingham, Toronto ; Lithot-

omy versus Lithotrity, Dr. Chas. B. Shuttleworth, Toronto; Thiersch's Method of Skin Grafting, Dr. Primrose, Toronto; Report of a Case of Congenital Dislocation of both Hips Treated by Lorenz Method and Exhibitions of Photos, Skiagraphs, and of Patient, Dr. H. P. H. Galloway, Toronto; Some Cases Illustrating Difficulties of Differential Diagnosis and Treatment of Tumors, Dr. Wm. Oldwright, Toronto.

Of the distinguished visitors who are to be present, Sir Frederick Borden will discuss "The Evolution of the Medical Department of the Militia of Canada and the Possibilities of its Future Development," and Sir Wm. Hingston will give a paper dealing with the subject of "Cancer." Papers are promised by the following gentlemen, but the titles have not yet been received: Dr. H. A. Bruce, Toronto; Dr. Hodge, London; Dr. Perry Goldsmith, Belleville; Dr. Elliott, Gravenhurst.

The Committee hopes to announce presently as guests of the Association the names of two of the foremost men in the United States.

A very pleasant feature of the meeting will be the tenth class reunion of 1894, Toronto University, under the presidency of Dr. W. J. McCallum. Between thirty and forty men already have signified their intention of coming to the city that they may conjointly meet as a class and attend the sessions. The yearly meeting of the Association ought to serve as a nucleus for many such reunions.

The Committee on Arrangements, notwithstanding the success attending the meeting of last year, promises a programme of entertainment that will be in keeping with the larger interest exhibited in the forthcoming meeting of this year. It is hoped every medical man in the Province who can get away from duty will be present.

The fusion of collegiate interests into one grand college, one of the largest on the continent, offers a special setting for the meeting of this year. Additional interest is due to the fact that the meetings will be held in the new Medical Buildings, where an opportunity will be available of seeing what has been accomplished in the advancement of medical education in the Province.

Communications should be addressed to Dr. C. P. Lusk, 99 Bloor St. W., Toronto.

TORONTO HEALTH MATTERS.

It was made clear at a recent meeting of the Toronto Board of Health that more rigid regulations respecting the inspection of rags was highly necessary. Dr. Sheard, Medical Health Officer, was instructed to confer with the Provincial Board of Health with a view to obtaining an enactment from the Government, providing for the disinfection of every bale of rags coming into the country. Dr. Sheard stated he was con-

ducting an inspection of the premises of all the rag pickers in the city.

The last two cases of smallpox which developed in Toronto were traced to rags which had been shipped to Toronto from New York, and it is the intention of the Health Department to take steps to guard against this danger in the future.

The contest for the chairmanship of the board, made vacant by the resignation of Wm. Bell, was between Ald. Dr. Harrison and Ald. Dr. Noble, the former being elected to the position. Dr. Harrison made a short speech, in which he paid a high tribute to the able services rendered the city by Dr. Sheard. The Medical Health Officer had done good work in giving the medical students clinics in smallpox. From this source fees amounting to $125 has been collected.

Dr. Sheard stated that the new wing of the Isolation Hospital would be ready at the end of May. He purposed inviting the board and the members of the Provincial Board of Health to be present at the formal opening, at which luncheon would be served.

Dr. Sheard called attention to the woful lack of public lavatories, the only one maintained by the city being opposite the Post Office, on Adelaide street. He declared that the lavatories of the Toronto Railway Company were a standing disgrace. He was not sure that the department had jurisdiction over them, but some action should be taken in the matter.

Mayor Urquhart stated that the Board of Control had under consideration the advisability of making a recommendation to the Council in respect to placing public lavatories at different points in the city.

ONTARIO HOSPITAL ASSOCIATION.

The annual meeting of the above Association was held in Toronto on 6th April. There was a large attendance, and many subjects of interest to the hospitals of the Province were discussed. It was agreed to ask the Government to pay the grant on patients from whom the hospitals receive $3.50 per week or less; and also to recommend that hospitals advance the charge on private ward patients The following officers were elected:—

President—Edward Gurney, Esq., Toronto.

Vice-Presidents—C. O'Reilly, Esq., M.D., Toronto; George Orme, Esq., Ottawa; B. W. Robertson, Esq., Kingston; Adam Beck, Esq., M.P.P., London; George Roach, Esq., Hamilton; H. Malcolmson, Esq., Chatham.

Secretary-Treasurer—J. Ferguson, Esq., M.A., M.D., Toronto.

Committee—M. O'Connor, Esq., Toronto; Robert McLaren, Esq., St. Catharines; J. H. Stratford, Esq., Brantford; A. Robillard, Esq., M.D., Ottawa; James McLauchlin, Esq., Owen Sound; T. L. Kenny, Esq., Sarnia; Robert Melvin, Esq., Guelph; T. Cochrane, Esq., Sudbury.

UNIVERSITIES AND COLLEGES

QUEEN'S UNIVERSITY MEDICAL GRADUATES.

Thirty-seven students have been granted their M.D. degrees by Queen's Medical College. Among the graduates are two negroes from Jamaica, who went there to complete their course and get a Canadian degree. Following is the list: Degree of M.D. and C.M., R. N. Bailey, Kingston, Jamaica; M. E. Branscombe, B.A., Picton; M. C. Brown, Bellview; J. S. Carruthers, New Glasgow, N.S.; J. C. Caskey, Tweed; A. K. Connolly, Kingston; T. J. Costello, Calgary; A. W. Delong, Gananoque; A. C. Driscoll, Trenton; A. D. Falkner, Williamstown; E. A. Ferguson, Kingston; A. A. Ferguson, Glen Water; J. V. Gallivan, Kingston; W. Gibson, Emerald; J. J. Gillespie, Morrisburg; J. R. Goodfellow, Kingston; J. A. Graham, Montreal; L. J. Gray, Kingston; L. W. Hopkins, Kingston; E. C. Kinkead, Kingston, Jamaica; A. J. Lalonde, Barrie; G. C. Leach, B.A., Fenelon; R. A. Lee, Port Hope; A. T. Munroe, Moose Creek; F. C. McCullough, Gananoque; H. A. McDonald, Sudbury; M. McGonigle, Newboro'; N. I. Pennock, Brockville; Miss Victoria Reid, B.A., Kingston; E. J. Robinson, North Williamsburg; S. H. Rutledge, Thomasburg; A. H. Singleton, B.A., Newboro'; N. Smith, Kingston; H. Tandy, B.A., Kingston; E. J. F. Williams, B.A., Brockville; C. S. Van Ness, Wolfe Island; J. M. Young, B.A., Bristol's Corners.

Medals and Prizes: In medicine—H. Tandy, B.A., Kingston. In surgery—William Gibson, Emerald. House surgeons—Wm. Gibson, H. Tandy, B.A., A. H. Singleton, B.A. Dr. Charles Clarke's prize in mental diseases—J. M. Young, B.A. Dean Fowler's scholarship, third year—A. C. Spooner, B.A., Latimer. McCabe prize in pathology—H. J. Williamson, B.A. Faculty prize, second year—E. Bolton, Phillipsville. Hayunga prize in Materia Medica—P. A. McIntosh, B.A., Dundela.

Queen's Convocation Hall was thronged at the medical convocation 8th April, at which Sir Sanford Fleming, C.M.G., the veteran chancellor, presided. After prayer by the chaplain, Rev. Eber Crummey, medals and prizes were presented. Dean Connell gave an address reviewing the session's work, and telling of future plans. This session the medical registration was 216, as compared with 201 a year ago. Of this number 37, or one-sixth, were art graduates. A valedictory address was given by Dr. M. E. Branscombe, B.A., captain of last year's senior rugby team. After the laureation ceremony, Prof. Cappon addressed the graduates. Principal Gordon also made a few brief remarks.

A feature of the proceedings was the presentation of a prize to E. W. Delong, Gananoque, by Dean Connell, who decided to follow out a scheme inaugurated three years ago by the late Principal Grant. The

prize is for the student whose moral standing is the highest. Graduates were asked to cast ballots for the purpose of choosing one among their number who they conscientiously thought would do the right thing at all times.

UNIVERSITY OF TORONTO CONVOCATION HALL.

The proposed Convocation Hall for the University of Toronto will be the result of the active devotion of the Alumni Association. The sum of $100,000 has already been subscribed, and it is understood that further private assistance has been promised which will enable the university to construct the building of stone instead of brick, as the plans contemplate. The alumni have attempted to combine utility and beauty. The sketch of the exterior speaks for itself. A few words about the interior are necessary. The hall is arranged in the form of an amphitheatre, in such a way that no seat is more than 60 feet from the centre of the stage, and every occupant can see perfectly the whole of the stage. The total seating capacity is 1,857. The ground floor, or inner circle, will seat 468. Rising from this all round is the outer circle, to seat 440. The first gallery will accommodate 364, and the second gallery 455. The platform will seat 120, and the special boxes ten more. On each side of the platform will be retiring rooms 34 feet by 23 feet, with all conveniences. On the ground floor there is a spacious foyer running from one end of the stage to the other at the rear of the outer circle, affording many entrances to that and to the inner circle, and off it will be a number of cloak rooms The first gallery is really a continuation of the outer circle, and will give that impression from the stage. Around both galleries will be wide corridors, so that entrance and exit will at all times be easy. In the rear of the theatre proper will be a large hall, 118 feet by 50 feet, capable of seating 500 persons. It can be used for banqueting purposes or for meetings which are not large enough to require the theatre. There will be ample provisions for lavatories, cloak rooms, etc., and the whole building is designed on the best application of the most modern ideas.

LONDON MEDICAL COLLEGE EXAMINATION RESULTS.

The results of the London Medical College examinations were announced a few days ago. Of the one hundred and odd pupils, Edward Spence, of Mossley, Township of North Dorchester, distinguished himself by capturing the gold medal in the final year. The medal is awarded to the student making the highest number of marks in the second, third, and fourth years, and the race was between Spence and Adrian J. Manard of Belle River. On the work of the second and third years, there

was a difference of only one point, but on the final year Spence did better. Manard takes the silver medal. It was the keenest contest in the history of the school. There are eighteen in the graduating class—a record number for the school—eight of the successful ones being Londoners. In the work in the first, second and third year London students did well, capturing three scholarships. The trio are:—Messrs. Rowntree, Hamilton and Danks. The graduates have yet to pass the Ontario Medical Council at Toronto. They are as follows: J. Agnew, Wingham; W. G. Anderson, Thorndale; G. M. Campbell, Belmont; J. G. Gunn, Ailsa Craig; W. H. Keen, St. Mary's; J. T. Lefever, Dunnville; A. J. Manard, Belle River; C. F. McGuffin, London; A. McMillan, London; D. McMillan, London; F. B. Patterson, Yarmouth Centre; J. H. Ross, London; A. W. Seighon, London; C. O. E. Smith, London; E. Spence, Mossley; H. G. Taylor, London; A. Turner, Southwold; J. A. Wright, London.

Gold medalist—Edward Spence, Mossley.

Silver medalist—A. J. Manard, Belle River.

Third-year scholarship—L. H. Rowntree, London.

Second-year scholarship—W. J. Hamilton, London.

First-year scholarship—A. J. Danks, London.

Honors—Fourth year, Spence, Manard, A. McMillan, Anderson, Turner, Wright; third year, Rowntree, Beer, Watson, Ewin, Glenn, Thomson; second year, Hamilton, Beal, Trottier, Grover, McQuaid, Holmes, Reid; first year, Danks, Milne, Holmes, Young, McKay, McVicar, Gray, MeBroom, Russell, Broome, Brown, Newell.

QUEEN'S MEDICAL APPOINTMENTS.

The following appointments have been made by Queen's trustees to the medical college: Professor of pædiatrics and associate professor of obstetrics and gynæcology, Dr. Wood; assistant professor of anatomy, Dr. Mylkes; professor of medical jurisprudence and toxicology, Dr. Williamson; senior demonstrator of anatomy, Dr. Etherington.

UNIVERSITY OF TORONTO MEDICAL EXAMINATION FEES.

There has been much dissatisfaction among the students over the recent advance in the examinations. The students have protested against the increase and sought redress, but without success. They claim that the fees have been increased without notice, and that the Trinity medical students are called upon only for $5, whereas the University students have to pay $14. In answer, it is said that due notice was given, and that the Trinity students are entitled to the lower fee according to the terms of federation.

THE CANADA LANCET

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EDITORIAL

SOME POINTS IN APPOLINARIS WATER.

Some time ago the *Lancet* (London) published a lengthy article on mineral waters, and particularly on Appolinaris water. The *Lancet* remarks that the natural mineral waters possess greater therapeutic qualities than those that are artificially prepared. This may be due to radio-activity, as has been shown to be the case in some instances. These natural waters contain traces of salts that are not present at all in artificially prepared waters. There is also the formation of double salts under high pressure, a condition not realized in the artificial preparation.

Some of the mineral water dealers entered action against the Appolinaris company for selling a manufactured article and that the spring was a mythical entity. The action was dismissed; and, after the evidence was heard, the Lord Chief Justice said in confirming the decision of the magistrate, "I understand that the water and the combination of it with carbonic acid gas is the same when supplied to the public, as it is when it is drawn up from the spring."

The *Lancet* sent a special commissioner to examine the spring and the method of bottling, and to have analyses made of the water as it comes from the spring, and of that sold in the open market. The spring is near the river Ahr, a small tributary of the Rhine, midway between Bonn and Coblentz; notwithstanding that 30 million bottles are put up annually there is no diminution in the flow from the spring.

A full account is given of the methods of collecting the water, its physical qualities as it flows from the spring, and the bottling of the water. The water in the market is the same as that of the spring in all respects as to its composition and the gas, with two exceptions. In the first place, before bottling, iron is deposited; and in the second place, salt is added. It has been fully determined that if there is one gramme of salt per litre, the sulphates are not changed to sulphides. It is with this end in view that the quantity of salt is increased from $3\frac{1}{2}$ to $12\frac{1}{2}$ grains per pint.

All the samples taken from the open market yielded a constant composition on analysis, and only differ from the water of the spring in the two points mentioned; the loss of a trifling quantity of iron and the addition of 0.1 per cent. of salt.

The *Lancet* article concludes that it would be difficult to conceive in what way the bottling of the water could be improved upon. The taste of the water on the market is the same as that at the spring. Appolinaris water is a natural mineral water of great purity and distinct medicinal value. The *Lancet* Analyses are in substantial agreement with those of Virchow, Bischoff, Liebreich, Mohr, Hofmann, Odling and Frankland.

THE INHALATION OF FORMIC ALDEHYDE IN THE TREATMENT OF PULMONARY TUBERCULOSIS.

In the *Philadelphia Medical Journal* for 13th December, 1902, there appeared an article from W. G. Smallcross, Ph. G., M.D., of Elwyn, Penn, on "the treatment of pulmonary tuberculosis with formic aldehyde and a description of an inhaler for its practical administration."

The writer first directs attention to the defective nature of the methods of inhalation, and describes an inhaler which he had devised. The author cites the results of Vincenzo Cervello, who obtained much benefit in nineteen out of twenty-six cases by the inhalation of a medicated vapor containing formalin; of Huggard, who read a paper at the London Congress on Tuberculosis, in which he stated that the best agent in our possession was the vapor of formaldehyde; of Muthu, who uses formic aldehyde, either by vaporizing tabloids over a spirit lamp or by means of steam. He gives Green's formula: Formaldehyde, 1 fl. dram; glycerine, 4 fl. drams; water, 5 fl. ounces. This should be inhaled for ten or fifteen minutes, four times a day. He refers to Maguire's attempts to render the lungs aseptic by injecting intravenously a solution of formalin 1 : 2,000. As much as 50 c. c. of this solution may be injected in a day. Tomaselli and Hahn have each employed formalin with gratifying results.

The author employs the following formula: Forty per cent. commercial formaldehyde, and ninety-five per cent. alcohol, equal parts. Chloroform, creosote, oil of gaultheria, guaicol, etc., may be added to this when desired.

The following advantages are claimed for formic aldehyde: It is a gaseous agent, it is a powerful disinfectant, it is stimulant and non-toxic, it lessons the absorption of toxins, it reduces fever, and relieves nervous symptoms and night sweats.

Some years ago, Dr. Murrell, of London, spoke highly of the inhalation of formalin in some form. He recommended the plan of putting some of the solution on a bib under the chin.

Recently there has been perfected an inhaler known as the Max Duplex Inhaler. By means of this inhaler any formula containing formaldehyde can be administered in a very satisfactory manner. It produces a cloud of extremely fine vapor that can be inhaled to the remote capillary bronchial tubes and air cells. There is reason to hope for good results from the inhalation treatment of pulmonary tuberculosis, now that suitable appliances are at hand for the production of a sufficiently fine vapor in sufficient volume.

THE SOLUBLE FERMENTS OF COWS' MILK.

Dr. Joseph Lesperance, of Montreal, has an article in the *Medical Record* for March 19th on the above subject. Dr. Lesperance is an authority on this subject, as he is one of the two who discovered the process of manufacturing Lacto-Globulin.

Milk is a complete food, as it contains the albuminoids, the fats and the sugars. It has been shown that an artificial composition of these constituents in the same proportion as is found in milk will not sustain life beyond a limited period. The constituent that is lacking in the artificial milk is an enzyme or unorganized soluble ferment. The absence of this explains why sterilized milk and sterilized foods have not fulfilled the general expectations of the scientific world. This fact induced many to return to good, natural milk. It was noticed that sterilized milk produced soft muscles in children.

The constituents which are destroyed when milk is raised to a temperature of 176° F. are the enzymes, those mysterious ferments which govern the equilibrium of the protoplasm. Every vital phenomenon seems to be dependent on these ferments, both in the animal and vegetable kingdoms. Animals kept in an aseptic atmosphere and fed on sterilized foods cannot live. The quantity and proportion of albumen, of carbohydrates, and of fats may be perfect, but that particular force which separates and disintegrates them into their ultimate terms of absorption no longer exists, and these food substances become inert.

Science has shown that though there are germs whose secretions are injurious to animal life, there are many others whose secretions are a direct benefit. Among these may be mentioned those that produce fine wines, good ciders, fragrant vinegars and savory beers.

The ferments that are found in milk originate in both the organic

cell and the bacterial cell. The former come from the gland cells that give rise to the milk, and the latter from the bacteria that get into the milk before it leaves the galactiferous ducts, or after it has been exposed to the air. The first set of enzymes is by far the more important. It became apparent to investigators that all the changes that take place were not due to bacteria. When chloroform or ether is added to milk the growth of bacteria is arrested, and yet in two or three days the milk will coagulate without an increase in its acidity. There must be enzymes not formed by bacteria.

Various carefully conducted experiments have proven that there are ferments in milk that are not accidental, but inherent in the milk itself. It has been determined by the writer of this article that cows' milk contains trypsin, pepsin, lipasic and oxidizing ferments, and a glycolylic ferment. The scientific value of these discoveries is very great, as they throw light upon the proper principles upon which artificial foods must be prepared in order that the milk may retain its nutritive properties.

A TORONTO SANITARIUM FOR CONSUMPTIVES.

For some months there has been a good deal said in the public press upon the subject of a civic sanitarium for consumptives in Toronto. There is evidently some confusion upon the subject, judging by the tenor of these comments. The Anti-Consumption League is entitled to the credit for several things. In the first place it has done much to educate public opinion on the subject of consumption. In the second place, it organized the Canadian Association for the Prevention of Tuberculosis, with the Governor-General at its head. In the third place, it was instrumental in securing legislation that renders it possible for municipalities to establish sanitaria for consumptives. In the fourth place, it was due to the efforts of the League that the Toronto Council submitted a vote to the people asking if the ratepayers were in favor of giving $50,000 to aid a sanitarium for the city. Fifthly, it was due to the League that the vote was in the affirmative. Finally, it was due to the League that the following conditions were proposed by the League, concurred in by the Medical Health Officer and City Solicitor, and agreed to by the Council in 1902:—

"The city shall be at no expense in connection with the sanitarium beyond the $50,000 to be granted by the city, and the payment of $2.80 per week for each patient sent thereto at the city's expense.

"The sanitarium shall be exclusively for residents of Toronto; it shall be within twelve miles of the city, with 50 to 100 acres of suitable

land; shall consist of an administration building, cottages and tents, to accommodate patients who have been bona fide residents of the city continuously for at least two years immediately prior to their admission, and shall have a wide-open door to consumptives in all conditions of life and in all stages of the disease.

"It shall not be a free sanitarium, as such would encourage pauperism, but those able to pay shall pay, and the poor shall be treated free of charge.

"The board of trustees shall consist of the medical health officer and eight other persons appointed by the council, four of whom shall be nominated by the voluntary contributors.

"The money to be derived from the city to remain in the hands of the City Treasurer, and if the sanitarium is proceeded with, one-half or more, as may be authorized by the City Council, shall be paid over to the trustees when a like amount has been paid to the trustees from voluntary contributions, donations, bequests, legacies, etc., and the balance of the $50,000 is to be paid over in the sums of $2,000, when a like amount is paid in from the sources above indicated."

From the above conditions, under which the vote was taken, it is perfectly clear that the money cannot be diverted to a dispensary. There must be a site of at least 50 acres. This clearly settles it outside of the city. There must be an administration building, cottages and tents, and these settle forever the idea of the money being used merely for a dispensary and clinic for tuberculosis in the negative. The money must be applied for the purposes for which it was voted, and no portion can be used until at least $25,000 has been first raised by voluntary contributions.

This latter condition is very clear and important. When those interested in the work have secured $25,000, the city must then advance $25,000 of the $50,000. The remaining $25,000 is to be advanced in sums of $2,000 as required for furnishing, etc., when similar sums are raised by contributions. The city thereafter only gives $2.80 a week on its poor consumptives. The sanitarium must therefore be maintained, apart from the above, by the fees from paying patients and donations.

This does not add one penny to the expenses of the city, as $2.80 would be paid to any institution taking care of a poor consumptive. The only outlay the city is at is the sum of $50,000, and this is not paid over until as much is obtained by donations, bequests, etc. The city of Toronto never voted $50,000 for a better purpose, nor under safer conditions.

Until the conditions, under which the vote was taken, have been en-

tirely changed, the idea of applying the $50,000 for the establishment of a municipal dispensary and clinic for tuberculosis must be entirely set aside. It would be a complete disregard of the will of the people, and of the agreements entered into by all the parties concerned.

The vote was taken on a municipal sanitarium for consumptives, and that it be managed for the city by trustees appointed in a manner clearly defined when the vote was submitted. The money, nor any portion of it, cannot be given to any corporation or association unless all the above conditions are fully complied with. The $50,000 can only be expended on a sanitarium, which must be outside of the city and governed by trustees appointed by the City Council.

THE ONTARIO HOSPITALS, REFUGES AND ORPHANAGES.

The 34th Annual Report of the Hospitals, Refuges, Orphans' Homes, etc., for the year ending 30th September, 1903, has just been issued.

There are now fifty-nine hospitals, thirty-five refuges, thirty-one orphanages, three homes for incurables, two convalescent homes, and two magdalen asylums in the Province.

Many improvements in the hospitals are noted, in the form of additional buildings, bathrooms, better ventilation, etc. Attention is drawn to the fact that in some hospitals the public ward patients seem to be somewhat overlooked in the interest of the paying patients, and the tendency to elaborate private wards and expend too much money on them are pointed out. The Inspector is of the opinion that this in some instances might be avoided. In some hospitals there appears to be an actual or seeming neglect of which the charity patients have complained.

There are only two hospitals entirely under municipal management, namely, the Hamilton City Hospital and the General Hospital in London. Dr. Chamberlain does not approve of this method of government of a hospital and thinks that hospitals had better be under the control of a board of trustees. For one thing they are more likely to receive donations. He points out that though these two hospitals receive Government aid, they are not really entitled to aid, as they are wholly under municipal control.

The number of patients in the hospitals on the 1st October, 1902, was 2,410; number admitted during the year ending 30th September, 1903, 32,368; and the total number under treatment during the year, 35,912. These figures do not include those who received medicine and treatment as outdoor patients. The number of deaths during the year was 1,997, and the total number of days' stay of patients in the

hospitals was 882,200. The provincial grant to hospitals is $110,000; total amount received from all other sources, subscriptions, donations, etc., $152,597.83; average cost of each patient per day, 89 cents; percentage of provincial grant to total expenditure, 14 per cent.

There are some one hundred old people's homes, orphanages, magdalen asylums, convalescent homes and homes for incurables in the province, having a total population of over 9,000, and an annual expenditure of $358,559. The provincial grant for the year amounts to $75,577.59.

The number of days' stay in hospitals for which Government aid was allowed, was 640,184. The grant of $110,000 distributed over this yields 17½ cents per day, for each patient from the hospital receives less than $3 per week. It will be noticed that the grant remains stationary, while the number of hospitals and patients entitled to Government aid are steadily increasing.

THE CANADA LANCET has repeatedly directed attention to this state of affairs. The hospitals of the province are doing, as a whole, a truly provincial work, and should receive a large share of the provincial funds. It is not fair for the Government and the various municipalities to send charity cases into the hospitals and not send with them the means for their support. Dr. Chamberlain's report shows that 89 cents per day is the average cost of daily maintenance. The Government grant of 17½ cents, and municipal grants of never more than 40 cents a day, leave a heavy deficit on account of charity patients to be met from the other incomes of the hospitals. This deficit of about 30 cents a day on these patients seriously hampers the work of the hospitals in all their departments.

The Government at the recent session amended the law so as to permit hospitals to receive the Government grant on patients from whom the hospitals receive $3.50 per week or less. This will improve the income of the hospitals very materially.

THE ONTARIO HOSPITAL ASSOCIATION.

The second meeting of this influential organization was held at the King Edward Hotel, 6th April, 1904. The organization meeting was held in Toronto in February, 1902. The larger hospitals are now members of the Association.

The objects of the Association are to regulate charges on patients so as to get the hospitals on a better business basis, and to use efforts to secure from the Government and municipalities a more liberal treatment of the charity patients in the hospitals.

It was pointed out that the per diem allowance from the Government is steadily decreasing. Last year it was 17½ cents per day, whereas this year it will not exceed 16 cents. When the Association interviewed the Premier, it was argued that the Government should fix the rate at not less than 20 cents per day for those entitled to Government aid.

It was also urged that the Government restriction of less than $3.00 per week should be removed and made $3.50 and less. This would enable the hospitals to collect from the various municipalities 50 cents a day as against the 40 cents now received. In this way the income on charity cases would be raised to 70 cents a day. This would better the situation materially, but would still leave these patients below the paying level, as Dr. Chamberlain's report points out the fact that it costs 89 cents per day to care for patients in hospitals. On another page will be found a full report of the meeting. The privilege to charge $3.50 per week on charity cases has since been granted.

We commend the objects of the Association to the attention of the Government, the municipalities that are interested in hospitals, and the hospitals themselves. There is not a hospital in the Province that can afford to remain aloof from the Association.

THE MUSKOKA COTTAGE SANATORIUM IN WINTER.

The attendance at the Sanatorium has largely increased, reaching now the greatest in the history of the institution, over 70 of the 75 beds being constantly occupied.

Muskoka has long been known as an ideal summer resort, but not till the opening of the Sanatorium and the publication of its splendid result has it been properly recognized as an excellent winter resort. There is every reason to think that during the next few years a great many people who now come to Muskoka for the summer, will change their visit to the winter season; or, dropping the summer vacation entirely, will take their holidays in the winter, when their business will allow them to do so.

The stimulating air of the north, with its bracing out-of-door sports, will surely soon be more attractive to the health-seekers than the more enervating climates of the south.

The present winter was in Muskoka, as elsewhere, unusually severe, and the snowfalls very excessive. This latter has meant rather a lessened amount of sunshine; but February had an excess of sunshine, and made a most enjoyable season in spite of the mercury ranging from 10° to 30°

below each night, and often for many nights in succession keeping below zero.

Life in the Sanatorium was particularly pleasant last winter, most of the patients enjoying the out-of-door life and happy in the knowledge of returning health. A great deal of sympathy for the patients in their "comparative exile," as it has been termed by those unacquainted with our pleasures, has been misplaced by friends at home, who cannot fully realize what a good time most of those under treatment are enabled to have, without in any way interfering with their progress to health; indeed the winter sports are very important factors in the fight to improve the languishing powers of the body, and, by building up the system, insure a perfect cure. Those who through weakness are unable to take part in the various pastimes, never fail to secure a good deal of pleasure from watching what is going on about them, while snugly wrapped up in furs and rugs upon their steamer chairs on the wide verandahs looking out upon the winter woods and the stretches of snow.

In the early part of the winter there was good skating until abruptly terminated by heavy falls of snow. Then snowshoeing began, and for three months this has afforded a most beneficial form of exercise; while driving and sleighing parties proved a most agreeable form of diversion for all.

The toboggan slide, which is immediately in front of the Administration building, was a great source of enjoyment, both for those using it and for those sitting out on the verandahs, all of which affords an excellent view of the slide—the regulation run being occasionally varied by a race between the toboggan and the terrier "Tim," whose antics are at times, to say the least, highly amusing.

In the way of indoor entertainment there has been this year some exceptionally good talent among the patients, both musical and dramatic. The orchestra comprised three violins, 'cello, flute, cornet and piano. The billiard-room, with its open windows, were seldom without a game in progress, while the Projection Lantern, presented by Dr. and Mrs. Powell, using the slides kindly loaned and presented by the Toronto Camera Club, helped to fill in a number of stormy evenings very pleasantly. There has been presented a gift of a large-sized Columbus Phonograph from Dr. George Elliott, of Toronto, and this will afford still another means of adding pleasure to the patients. The library is gradually growing, now numbering nearly 700 volumes, and this, no doubt, will be constantly added to by friends.

Photography is becoming steadily more popular; and in searching

for the most beautiful of the many beautiful spots which nature has provided the patients gather health and strength.

Spring is coming, and instead of a glistening surface of white, there will be the verdure of nature's spring, heralded by the wild flowers which carpet the woods and many hillsides.

THE COST OF CONSUMPTION TO CANADA.

It is only when some questions are put into figures that their real importance becomes clear to the mind. It is safe to assume that 2,000 persons die of consumption per million of the population. Taking the population of the Dominion as 6,000,000, the death loss from this disease would be about 12,000 per year. About four times as many are ill as die. This would show that there are nearly 50,000 people in Canada ill with consumption.

The duration of the disease is practically four years on an average. The average age of those who die of the disease has been determined to be about 35. This leaves an expectancy of say 32 years which is lost to these persons and the nation.

If due account be taken of all those who die of consumption at the average age of 35, it will not be far wrong to state that their earnings will average $300 per year. This average would cover the earnings from the domestic girl to the highly paid manager of a company.

As the average duration of ill health in consumption is approximately four years, it will at once appear that there will be a heavy loss in the depreciation of their working capacity each of these years. It would be fair to say that at least one-half of their working value is lost. This would reduce the value of each life from $300 to $150, or a loss of $150 each year. This loss on 50,000 persons represents a total loss each year, on account of sickness, of $7,500,000.

But when we turn to the loss to the country by the death of 12,000 persons at the average age of 35, and with the average earning capacity of $300, we begin to see the vastness of the loss. The value of one dollar a year on each life at the average age of 35 is, according to the rate of interest selected in making the calculations, from $15 to $20. Assume the lower sum. It will be seen that with the annuity value of $15, and each life worth $300 a year, on an expectancy of over 30 years, the loss for each life is $4,500.

With $4,500 for each life and a death loss of 12,000 persons, the monetary loss to the country each year on these 12,000 deaths is $54,000,000. Add to this the loss of $7,500,000 on account of lost time through sickness, and the grand annual loss is $61,500,000.

And all this due to a disease that is almost wholly preventable. Just look around and see the families that have been cut down, one after another, until three, four, five, six or more have died, because preventive measures were not taken to guard against infecting the well by the sick. Experience has already shown what prevention can do. In countries where sanatoria abound and care is taken the annual death loss has been decreased some 30 to 40 per cent. In Great Britain it has been lessened by at least 30,000 a year, on this disease alone.

The above, however, does not represent the full cost of this disease.

Observations have been made to determine what proportion of consumptives are married. Though this has not been definitely established, it is safe to assume that 40 per cent. are. This would give about 2,000 married men and a similar number of married women as dying each year of consumption. It will at once appear what a heavy burden this will place upon friends, churches, benevolent societies and municipalities to assist the widows and children. The amount of money spent in the support of these is large, though no idea exists as to what that sum is.

Add to all this the distress caused by the sickness and death of so many wage earners, and the cost of nursing and medical attendance.

PERSONAL AND NEWS ITEMS

Dr. Richardson, of Toronto, is recovering from his severe illness.

Dr. Fissette, of Brantford, was confined to the house through sickness.

Dr. and Mrs. Tyler, of Halifax, are enjoying the climate of Southern Italy.

Dr. Harry Thornton, of Petrolea, was recently married to Mrs. Campbell.

Dr. Jeffs will move into the residence of the late Dr. Jackes about the middle of April.

Dr. Tatham, of Cargill, Bruce, underwent an operation for appendicitis a short time ago.

Dr. J. J. Mason has been appointed pathologist to the General Hospital, London, Ont.

Dr. J. H. Ayers, of Charlottetown, was confined to his house by illness for a short time.

Dr. J. Leslie Foley, 1076 Sherbrooke street, Montreal, has recovered from an attack of grippe.

Dr. William McDonald, Antigonish, N.S., has gone for a trip to Bermuda on the SS. Octmo.

Dr. Edmund B. Norwood and Miss Stella Keens were married at Hubbard's Cove, on 6th April.

Dr. Seymour, of Indian Head, N.W.T., has left for Chicago. On his return he will remove to Regina.

Dr. and Mrs. Bell, and Master Bell, of Montreal, sailed by steamship Cedric for England Wednesday.

Dr. A. E. Ranney, formerly of Georgetown, has been appointed Medical Health Officer at North Bay.

Dr. and Mrs. F. W. Smith, of Aylmer, are contemplating taking a trip to British Columbia this summer.

Dr. Maloney will remain in St. Andrew's for a few days longer, after which he will proceed to Winnipeg.

Dr. Ernest T. Curran, who has been at Blind River for the past six months, returned to his home at Ingersoll.

Dr. Phileas Hector Bedard, of St. John Street, Quebec, is the new deputy-coroner for the city and District of Quebec.

Dr. Thompson, an assistant of Dr. Harvie's a year ago, leaves Whitby next week for a post-graduate course at Edinburgh.

Dr. John W. Manchester, who has been studying in Germany for the past year, has left Sussex for Winnipeg to locate.

Dr. Chas. W. Saunders, son of John Saunders, of Merrickville, returned two weeks ago after an extended trip abroad.

Dr. J. V. Connell has opened an office in Winnipeg. He is a post-graduate of New York, Edinburgh and London Hospitals.

Dr. G. W. Smith has resigned his position as assistant physician on the N.O. & T. railway and has opened an office at North Bay.

Dr. Frank Buchanan, of Galt, has broken the sod for a new residence on Brant avenue, which he intends erecting for himself.

The engagement is announced of Miss Ella Seeton and Dr. Leonard Murray, both well known and great favorites in Halifax, N.S.

Dr. Johns, of Brockville, was in Kingston with his father. As soon as he has sufficiently recovered they will both leave for Bermuda.

Dr. Bryson, of Ottawa, has been appointed Chief Medical Officer of the Immigration Department, and is expected to visit Halifax shortly.

Dr. Cook, Manitou, has returned from Winnipeg, and though far from well, we are pleased to state he is looking much better than formerly.

Dr. J. J. Brown, of Owen Sound, was suffering from an attack of pneumonia during latter part of March at the General and Marine Hospital.

Dr. W. H. Secord, of Brantford, left last week for Montreal to enter upon his responsible duties as one of the house surgeons of the Royal Victoria in that city.

Dr. J. S. Reid, of Walkerton, has taken charge of Dr. Price's practice and will look after the many patrons of Dr. Price until he has fully recovered his health.

The announcement has been made in Montreal of the engagement of Miss Phemie Dunlop, youngest daughter of Mr. John Dunlop, to Dr. W. Gordon Cummings.

Dr. Fred Etherington, Portsmouth, a brilliant young graduate of Queen's, left a few days ago for Portland, Me., whence he will sail shortly for Edinburgh, Scotland.

The announcement is made in Brockville of the engagement of Miss Lillian May Fitzsimmons, daughter of the late Mr. Robert Fitzsimmons, to Dr. S. Gowan.

Dr. Clemes, of Collingwood, who was in the G. and M. Hospital for a week, suffering with appendicitis, we are pleased to say is out again and attending to his duties.

Dr. L. De L. Harwood has been appointed professor of gynæcology in Laval University, and also chief of the gynæcological department of Notre Dame Hospital at Montreal.

Dr. A. H. Peck, an old resident of this county, who has practised his profession for several years at Hopewell Cape, N.B., is dangerously ill. No hope is entertained for his recovery.

Dr. Prowse, of Winnipeg, has returned from the east, where he has been making a combined pleasure and professional visit, and will receive patients as usual in his rooms at the Baker block.

Among the physicians attending special courses at Johns Hopkins University, Baltimore, is D. George and J. Campbell, M.D., C.M., Dalhousie University, 1902, in pathology and surgery.

The marriage of Miss Robina Bryson, daughter of Hon. Geo. and Mrs. Bryson, of Fort Coulonge, to Dr. William Alexander Cameron, of Arnprior, took place on Wednesday the 30th March.

A very pleasant event took place at the residence of Dr. Beeman, Napanee, on Wednesday, 6th April, when his eldest daughter, Edith, was united in marriage to Dr. H. E. Paul of Fort William, Ont.

On 5th April Dr. A. J. Sinclair received a telegram from the Hon. William Paterson, Minister of Customs, stating that he had been appointed acting collector of customs for the Town of Paris.

Dr. C. A. Hodgetts, Secretary to the Provincial Board of Health for Ontario, has been made a vice-president of the American Congress of Tuberculosis to be held at St. Louis, in October of this year.

Dr. Willmott of Strathroy, while driving in the dark, a couple of weeks ago, missed the road and his horse and rig went over an embankment. He received some severe cuts and bruises about the face.

Dr. Hamilton, M.R.C.S., L.R.C.P., of London, England, is visiting his brother, R. S. Hamilton, Queen street, Galt. Dr. Hamilton will leave shortly for the Northwest, where he intends to practise his profession.

Dr. McPherson, late of the Royal Alexandria Hospital, Fergus, left at the end of March for Montreal. The doctor intends going to London, Eng., in the near future, where he will take another course in medicine.

Dr. and Mrs. Charles E. Kennedy, of Charlottetown, left a few weeks ago for Boston en route to Winnipeg, where they will make their future home. Their departure is a source of keen regret to their many friends.

Dr. Stenning, of Coaticook, who has been under the weather for some time, although he has managed to attend to his practice, sailed a short time ago for the Old Country to get the benefit of the ocean voyage.

Dr. W. G. Jolicoeur, who was recently appointed Coroner of Quebec and district, was entertained on 4th April, at a dinner, by a number of his friends, at Lefrancois, Chateau Richer, when a most pleasant time was spent.

Dr. Mitchell, of the Toronto Asylum staff, who has been appointed to take charge of the new asylum for epileptics at Woodstock, has gone to England to look over the institutions there preparatory to assuming his new duties.

We are pleased to be able to state that Dr. J. E. King, of Weston, has recovered from his recent severe attack of pneumonia, and that he is able to resume his professional duties once more, after an illness of five weeks. We are sure his many friends will be glad to hear of his recovery.

The Provincial Secretary has given notice of motion to place the General Hospital of Walkerton, the John McKellar Memorial Hospital, Fort William, and the St. Joseph Hospital, Rat Portage, on the list of those receiving Provincial aid.

Dr. Fotheringham is convalescing nicely after his recent illness, and wishes to thank the many friends who were so kind in their enquiries and attentions. He expects to resume practice early in July, after his return from a trip to the Continent and Britain.

Dr. D. A. Sinclair, who received his primary education at the Glencoe high school, has recently returned from England, where he was taking a post-graduate course at St. Thomas' Hospital, London. The doctor has decided to locate in Melbourne, his birthplace.

Many will learn with great regret of the accident to Dr. Conroy, of Charlottetown, P.E.I. The doctor was driving near Royalty Junction, where he had a professional call, when the sleigh upset, throwing him out with considerable force, and breaking his femur.

The Board of Health, Ottawa, has appointed Dr. Sheriff to the vacant position of resident physician at the Isolation Hospital in succession to Dr. Campbell, who is leaving to study abroad. Dr. Sheriff is at present one of the house surgeons at the Protestant Hospital.

A very pretty wedding occurred recently at the residence of Mr. and Mrs. John Dixon, "Maple Bank," Rebecca, Ontario, when their youngest daughter, Margaretta Florence, was united in the bonds of matrimony to Dr. William H. Clarke, of Oakville, Manitoba.

Dr. James McKenty, of Winnipeg, met with a rather serious accident ten days ago, while driving on Main Street, opposite the McIntyre block; a street car ran down his buggy, badly damaging it, and throwing the doctor on the street. He was picked up in a dazed condition.

Dr. McGillivray, of Hamilton, who has practised medicine on the corner of King and Bay streets for many years, has decided to move to a more central location, and has leased that splendid suite of office rooms over the C. P. R. office, on the corner of King and James streets.

Dr. Ami, Ottawa, has returned from a trip to the south. Mrs. Ami and little Miss Marguerite Ami are still in Thomasville, Georgia, where they expect to remain for a fortnight longer. Before returning to Ottawa in May, Mrs. Ami will visit Washington and other points.

The Central Ontario Medical Association met at Peterboro' and elected officers as follows:—President, Dr. Halliday; 1st vice-president, Dr. McNulty; 2nd vice-president, Dr. Carmichael; secretary, Dr. Morgan; treasurer, Dr. Caldwell; auditors, Drs. Scott and Amys.

The Toronto Western Hospital, which has occupied its present site for five years, has now purchased it. The block of land contains four acres, in one of the most convenient locations in the city. The location of the hospital is only a short distance west of the centre of the city.

Dr. and Mrs. Wickham, Tignish, left in the latter part of March via Georgetown, en route for the Southern States, whither the doctor has gone for the benefit of his health. His friends earnestly hope for his speedy recovery and look forward to his returning home again in good health.

J. A. Carveth & Co. respectfully call attention to the fact that they have at last become located in their new premises at 434 Yonge Street, where they will continue in the Medical Book business with the hope of materially increasing their connection with the Medical Profession and Students.

The Ontario Government were waited upon three weeks ago by a deputation with the request that the Municipal Act be amended so as to enable the town of East Toronto to submit a by-law to the people to provide for $2,500, which they desire to contribute to the proposed new Y.M.C.A. to render it suitable for hospital purposes.

The Executive Committee of the Toronto Anti-Consumption League have decided to make a public appeal to raise $25,000, which, they claim, is a necessary condition either to a grant by the city of $50,000 for a municipal sanatorium, or to securing the benefits for Toronto of the Provincial act respecting municipal sanatoria for consumptives.

Dr. Henry E. Young, M.P.P. for Atlin, and Miss Rosalind Watson, M.A., late of Victoria High School teaching staff, were united in wedlock 15th March. The ceremony was performed by Rev. W. Leslie Clay, B.A., at the residence of the Premier, Hon. Richard McBride, Park Road, in the presence of the immediate friends of the contracting parties.

During the month of March this year there were registered in Toronto sixty more births than in March of last year, whilst the marriages were six less, and the deaths twelve less. The cases of diphtheria show a considerable decrease on March of 1903, as also do typhoid and scarlet fever, the latter disease being evidently about stamped out.

Dr. R. B. Anderson, of Winnipeg, has returned to that city from Edinburgh, Scotland, where he has been taking a post-graduate course in medicine and the degree of L.R.C.P. and S On his way home he visited the hospitals at London, Belfast, Dublin, Paris, New York, Philadelphia, Baltimore, Washington and Chicago, The doctor will locate in Winnipeg.

Ludwig Knacke, a patient who died in the Manhattan State Hospital, March 28th, came to his death as a result of injuries inflicted in that institution, according to the finding of a Coroner's jury, which completed an investigation of the case. Coroner Brown, upon this finding, held three male nurses employed in the hospital for the action of the Grand Jury.

Dr. Frank R. Paterson, of St. Martins, who has for some time been a practising physician in British Columbia, has removed from Ladysmith to the Kootenay District. A few evenings ago, previous to his departure, Dr. Paterson was made the recipient of a gold watch suitably engraved, and an address from a number of his friends in Ladysmith. Dr. Paterson at one time practised in Westfield.

Dr. Hodgetts, secretary of the Provincial Board of Health, intends to make efforts to have the law obeyed. Statistics indicate that all cases of infectious or contagious diseases are not reported. The returns of physicians for 1902 showed but 1,540 cases of typhoid fever, but hospital statistics gave 2,067. In 1903 returns from 700 divisions gave 1,012 cases, as against 1,918 by the hospitals' statistics.

Miss Louisa Lorne Park, of Whitewood, N.W.T., second daughter of Mr. & Mrs. R. S. Park, and H. Softley, M.D., of Claude, Ont., were married in the Presbyterian Church, Whitewood, at 7 p.m., on Monday, April 18th. The ceremony was witnessed by sixty guests, who then repaired to the bride's home where supper was served. The couple then left by evening train for a short trip to Hawkesbury before returning home.

News was received by cable from London a few days ago that Dr. Brefney Rolph O'Reilly, son of Dr. Chas. O'Reilly, of the Toronto General Hospital, has successfully passed the examinations in medicine and surgery, entitling him to the honorable degrees of L. R. C. P., Lond. (Licentiate Royal College Physicians, London), and M. R. C. S., Eng. (Member Royal College Surgeons, England). Dr. O'Reilly was born in Toronto, educated at Upper Canada College, and took his degree of M.D.C.M. in Trinity University, when he won the gold medal. He is probably one of the youngest holders of his various degrees.

Dr. J. E. Campbell, who several months ago assumed the duties of resident physician at the Ottawa Isolation Hospital, is retiring, as he intends to go abroad for a course of study, and the city medical officer is looking for a man to fill the place. Though the house surgeon's appointment is recognized as not being permanent, but rather for the purpose of giving young medical men experience in the treatment of contagious diseases, the Board of Health much regrets to lose the services of

Dr. Campbell, who is the best man they ever had in the hospital. The name of Dr. Hill is mentioned in connection with the vacancy.

Dr. J. A. Hutchison, chief medical officer of the G.T.R., in company with Dr. Armstrong, of Montreal; Dr. Murray McLaren, of St. John, N.B., and Dr. W. G. Anglin, of Kingston, Ont., have gone on a trip through the different hospital centres of the Old Country. They took ship from Boston for Naples on April 9, and it is their intention to work their way slowly through Italy, stopping at all the principal hospitals, and finally making their way to Vienna. As Dr. Lorenz, the world-famous surgeon, lives in the capital of Austria, the four doctors intend paying him a personal visit and also inspecting his hospital in that place. It is expected the trip will last two months.

A large gathering of nurses from all over Ontario was held in St. George's Hall, Toronto, a short time ago, when the Ontario Graduate Nurses' Association was formed. The object of the association is to secure legal recognition for the profession, and to require a standard and legal registration for those holding themselves out as trained nurses. Dr. Helen McMurchy referred to the benefits which the legal and medical professions had derived from legal registration. Miss Damer, of Buffalo, said that the New York State Nurses' Association had done a great deal towards raising the educational standard. The election of officers resulted as follows:—President, Miss E. C. Gordon, Emergency Hospital; Vice-Presidents, Miss Wartman, Kingston; Miss Rice, Ottawa; Secretary, Miss Julia Stewart, Toronto General Hospital.

Application has recently been made to the Toronto Council by the Victorian Order of Nurses, through the Secretary, Mrs. A. R. Capréol, for a grant to go towards the deficit. When it is understood that the work of this order is done by women who are graduates of well-known hospitals, that much of it is done without any return, and that for the remainder only a nominal fee is charged, it will be readily understood how a deficit is inevitable. Private subscription goes some distance to the lessening of this, and would doubtless go further if the work were better known. As the lady superintendent of the Toronto branch has said: "Our field is a large one, in general; all the people in this big city who cannot afford a trained nurse; in particular, that large body of our people who cannot afford a small fee."

Pelee Island, weird and wild in winter, and bleak and barren in the summer, the home of 700 souls, has never had a resident physician. To get one—and have him handy all the year around—the residents have

been compelled to get a bill put through the Ontario Legislature. In support of this bill, which grants Dr. Owen B. Van Epp, an Ohio practitioner, the right to practise in Pelee Island without passing the Provincial examinations. A year ago Dr. Van Epp, of Ohio, took residence upon the Island temporarily. He was impressed with the necessities of the situation and was persuaded to remain. He could not legally practise, however, until he had secured the permission of the Legislature. Accordingly a petition signed by 200 adults, practically the entire adult population of the Island, was presented by Mr. Auld to the committee, and upon this the Act was reported to the Legislature by the Private Bills Committee. There was no opposition.

OBITUARY.

WILLIAM B. BURLAND, M.D.

The news of the death of Dr. William B. Burland, at his late residence, 288 Prince Arthur street, Montreal, on Saturday, 19th March, was learned with much regret by his many friends and acquaintances.

The late Dr. Burland was ill for a short time only. He had been confined to the house for about a week prior to his death, but it was on Wednesday that he was obliged to remain in bed, and on Saturday died from pneumonia. Dr. Burland was a remarkably strong, robust man, for many years much interested in sports, and was well known in athletic circles. He was born at St. John's on March 5, 1844, his father having been Collector of Customs at that place for many years. Dr. Burland entered McGill, where he took his degree, and has for a long time been a general practitioner in the city.

In military matters Dr. Burland was also prominent, and was for many years connected with the militia, having served as a captain in the Prince of Wales Rifles (Fenian Raid medal), and later as surgeon of the Royal Scots in Lieut.-Colonel Crawford's time.

The late Dr. Burland is survived by his widow, who was a Miss Watt, and by two sons and one daughter.

The funeral took place from the house to Mount Royal Cemetery.

LEON VERMETTE, M.D.

Dr. Leon Vermette, of the town of St. Louis, died 15th April, at the age of 65 years. Deceased was well and favorably known in the County of Terrebonne, having practised his profession for a period of nearly forty years in the parish of St. Janvier.

WILLIAM P. BUCKLY, M.D.

Coroner Buckly, of Prescott, died in Ogdensburg City Hospital on Saturday evening, 2nd April, as the result of an operation. William P. Buckly, M.D., was the youngest son of the late Timothy Buckly, and was born in Prescott. After matriculating from McGill, he practised in his native town. He was a prominent physician in the locality. In 1881 he married Miss Sweeney, who survives him

H. C. FEATHERSTON, M.D.

Dr. Herbert C. Featherston, son of Mr. A. M. Featherston, died at his father's residence, 112 Bedford Road, Toronto, on 7th April, after an illness of about five weeks. The deceased, who was only twenty-five years old, was a graduate of McGill University, of the class of 1902. After graduation he went to Edinburgh University for a post graduate course, where he took a triple qualification at the Royal College. Returning to Toronto in 1903, he started to practise. He was not very well when he returned on account of hard study. He took bronchitis which developed into pleuro-pneumonia.

JOHN ADAMS CARROLL, M.D.

At St. Catharines, on the 25th March, 1904, John Adams Carroll, M.D., only son of the late Rev. John Carroll, D.D., died, aged 56 years. The class of 1880, in the old Toronto School of Medicine, will recall their class-mate Carroll, and hear with regret the news of his death. He was a favorite.

SIR HENRY THOMPSON, BART., F.R.S., F.R.C.S.

Sir Henry Thompson, Bart., the distinguished surgeon, died 18th April. He was born at Fralingham, Suffolk, in 1820, was distinguished as a practising surgeon, an author of standard works on surgery, the writer of several clever novels, a painter on fifteen or more canvases so excellent as to win places in the Royal Academy, the Salon, Paris, and other art temples, and was also a noted astronomer. In addition, he wrote and edited a number of essays on various topics of public interest.

GEORGE D. SPARHAM, M.D.

Dr. George D. Sparham, of Kemptville, one of the oldest medical practitioners of Leeds and Grenville, died 20th April, at Athens. The deceased had lived to be 95 years of age and for many years past had retired from active practice of his profession. He was a graduate of McGill College, of Montreal.

BOOK REVIEWS.

PEARCE ON DISEASES OF THE NERVOUS SYSTEM.

A Practical Treatise on Nervous Diseases for the Medical Student and General Practitioner by F. Savary Pearce, M.D., Professor of Nervous and Mental Diseases in the Medico-Chirurgical College of Philadelphia; Fellow of the College of Physicians and Surgeons of Philadelphia; Neurologist to the Howard and Philadelphia Hospitals; Member of the American Medico-Psychological Association, and of the American Climatological Association; Chairman of the Section on Nervous and Mental Diseases of the American Medical Association. Colored frontispiece. Ninety-two illustrations in the text, many in colors. New York and London: D. Appleton and Company, 1904; Toronto: Messrs. Morang & Co. Price, $3.00.

This book opens with a brief, but excellent account of the anatomy, physiology, and pathology of the nervous system. Then follow chapters on general symptomatology and therapeutics. The special diseases are treated of in a concise, but clear manner. The illustrations are selected with much care and aid the text in making clear the meaning of the author. The author has wisely avoided all unnecessary detail and lengthy discussions on doubtful points. In this way, he has been able to give the leading points in neurology in a book of 400 pages. For the student and general practitioner the book contains all that will be required for the final examination, and in the everyday calls of the busy doctor. At the end of the book is to be found a number of very useful formulæ. We can very cordially recommend the book, and feel sure it will well repay careful study.

DR. MUNDELL'S ANATOMY.

Anatomy Applied to Medicine and Surgery by D. E. Mundell, B.A., M.D., Professor o Applied Anatomy, Faculty of Medicine, Queen's University; Ex-Examiner Practice of Medicine, Ontario Medical Council; Surgeon to Kingston General Hospital, Kingston: British Whig Office. 1904.

This book of 500 pages is just fresh from the press. It has been known for some time that Dr. Mundell was engaged on a work on anatomy, but what its scope would be was only made public when the book appeared. Those who know Dr. Mundell and his careful methods of teaching expected a good work. An examination of the book fully bears out this expectation. Most of us are familar with such works as Bellamy's Surgical Anatomy, Ranny's Medical Anatomy, Holden's Landmarks, Treves' Applied Anatomy, etc. The present work takes the place of all these. It combines the good features of all and eliminates some of their defects. It is an excellent book of reference for all points where anatomy touches medicine and surgery. We heartily commend this Canadian work.

COMMONER DISEASES OF THE EYE.

In our review of this book in our April issue, the name of the publishers were omitted. The work is published by Messrs. G. P. Engelhard & Co., Chicago.

FUNCTIONAL DIAGNOSIS OF KIDNEY DISEASES.

With Special Reference to Renal Surgery. Clinical Experimental Investigations by Dr. Leopold Casper, Privatdocent an der Universitat in Berlin ; and Dr. Paul Friedreich Richter, Assistant der III Med. Klinik, Berlin. Translated by permission, by Dr. Robert C. Bryan, of Washington D.C., and Dr. Henry L. Sanford, Surgical Resident, Lakeside Hospital, Cleveland, O 12mo. Cloth, $1.50 net. Philadelphia ; P. Blakiston's Son & Co.; Toronto : Messrs. Chandler & Massey.

It has been of more than ordinary pleasure to review this book. Drs. Casper and Richter have given the profession a really excellent book on the Functional Diagnosis of Kidney Diseases, while Drs. Bryan and Sandford have turned the original into good English. It is a first-class work for reference, and will prove of the utmost value to every clinical teacher and practitioner.

KNIGHT'S DISEASES OF NOSE AND THROAT.

Diseases of the Nose and Throat by Charles H. Knight, A.M., M.D., Professor of Laryngology Cornell University Medical College ; Surgeon Manhattan Eye and Ear Hospital, Throat Department, etc., with 147 illustrations. P. Blakiston's Son & Co., 1012 Walnut Street, Philadelphia, Publishers. Price $3.00.

In a book of 423 pages the author gives full notes of what has formed the basis of a course of lectures at Cornell Medical College. The arrangement therefore has been such as has been found best suited for students. The author has wisely omitted going into too much detail with anatomy and physiology. The dieases of the various areas are very clearly discussed and treatment is usually very complete. The book is valuable to all, but more especially does it appeal to students and general practitioners.

VON BERGMANN'S SURGERY.

In our review of the first volume of Von Bergmann's Surgery in the April issue of the CANADA LANCET, we omitted to mention the name of the publishers, Messrs. Lea Brothers & Co., of Philadelphia.

GOULD'S MEDICAL DICTIONARIES.

Messrs. Blakiston's Son & Co. are authority for the statement, that last year they sold 15,487 copies of Gould's Medical Dictionaries, making the total sales to date 166,083.

DEAVER'S SURGICAL ANATOMY.

Messrs. P. Blakiston's Son & Co., of Philadelphia, announce that in printing all the copies of Deaver's Surgical Anatomy so far demanded by its most successful sale there will have been used 2,340 pounds of ink, 188,002 pounds or 84 tons of paper, and the printing press will have made 3,455,000 impressions On and after July 1st, 1904, the price of this work will be advanced to $30 in half Morocco, and $33 in half Russia binding.

MISCELLANEOUS

THE THERAPEUTICS OF THE GLYCEROPHOSPHATES.

By a series of experiments, Dr. Albert Robin, of Paris, was led to attribute to the glycerophosphates the following physiological actions :—

1. Metabolism, both of organic and inorganic matter, is accelerated.

2. Nitrogenous exchanges are hastened, both as to assimilation and disassimilation.

3. Uric acid is relatively diminished.

4. Sulphur compounds are acted upon similarly to nitrogenous ones, and since the ratio of sulphur to nitrogen increases in almost every case, it is to be concluded that organs rich in sulphur, like the liver, are the special seat of more vigorous nutrition.

5. Intestinal fermentations are but little affected.

6. The increase in chloride of sodium excreted is a proof of increased appetite—a fact confirmed by clinical experience.

7. There is relative diminution in the disassimilation of phosphorus, and an absolute one in that of magnesium, both substances belonging pre-eminently to the nervous system.

From the physiological conclusions above, Dr. Robin is led to think that the glycerophosphates are not to be employed against this or that particular disease, but against varied morbid conditions which indicate the use of the preparation. Thus, in a patient suffering from neurasthenia, with phenomena of excitement and exaggeration of nitrogenous metabolism, glycerophosphatic medication is contraindicated. The same treatment would be useful in such a patient with an elimination of phosphates greater than that of urea.

Dr. Robin divides the therapeutic indications of glycerophosphates into four groups :—

1. Lowering of nitrogenous exchanges, both in assimilation and disassimilation, as in their oxidation, comprising: (*a*) one form of chlorsis, with diminution of oxidations; (*b*) chronic gout, in cachectic conditions (acute gout is a contraindication); (*c*) diabetes with cachexia (the same contraindication as above in florid diabetes); (*d*) obesity with diminished oxidation; (*e*) chronic tuberculosis, with the double object of stimulating the organism and of diminishing the demineralization of the cell, a process which Dr. Robin looks upon as one of the adjuvant causes of the disease; (*f*) chronic Bright's disease, with albuminuria and little urea; (*g*) phosphaturic albuminuria; (*h*) dyspepsia with diminished

acidity and gastric insufficiency, after appropriate gastric treatment (*i*) in senility attended with general debility.

2. Cases in which the action of the liver is torpid, carefully excluding all cases with exaggeration of hepatic processes.

3. The most important group comprises any depraved state of the nervous system, such as: (*a*) convalescence from acute affections, influenza; (*b*) various forms of phosphaturia with the exception of phosphaturia secondary to hypersthenic dyspepsia with hyperacidity; (*c*) many forms of neurasthenia, where depression or asthenia is the leading symptom—but phenomena due to excitement are aggravated; (*d*) muscular atrophies of various origins; (*e*) paralyses due to various causes—in this class the medicament has but little influence; (*f*) the pains of tabes dorsalis, tic douloureux, sciatica, lumbago—which are particularly benefited by this treatment, the pains of tabes in seven out of ten patients being either much modified or altogether abolished; (*g*) Addison's disease. In mental diseases or progressive general paralysis no good effect has been observed—in fact, the results have been harmful in agitated patients; but some good effect has been noted in depressed patients suffering from melancholia.

4. Whenever it is desirable to modify the metabolism of the calcium salts, as in many affections of the bones, such as rickets, osteomalacia, fractures, etc.

Dr. Robin was led to study the therapeutic value of the glycerophosphates (with which he had been experimenting since 1888) by the fact that in the course of his researches on neurasthenia he found that certain patients excreted in their urine quite considerable quantities of incompletely oxidized phosphorus. And since the other nutritive conditions remained normal, he considered that this phosphorus must originate from a retrograde metamorphosis of the neurolecithin. For, as is well known, most of the imperfectly oxidized phosphorus appears as phosphoric acid; and phosphoric acid is an essential component of lecithin, which plays so important a part in the structure of the nervous system.

The excretion of the ordinary medicinal phosphates is, however, a matter of difficulty, and he therefore thought he would attain better results by administering the phosphorus in an organic combination more suitable for the nervous system.

Elixir Glycerophosphates Calcium and Sodium (Parke, Davis, etc.) rapidly builds up the impaired nervous system which is found during convalescence from all serious acute diseases, especially after grippe.

IN SPITE OF TEACHERS AND TEXT-BOOKS.

The days of the cotton jacket and the linseed poultice seem to be past. Perhaps the applications valued most highly by medical teachers at this time are the cold ones, either in the form of ice-bags or cold compresses frequently changed. These, when placed over the seat of disease, seem to give decided relief, to modify the temperature, and to hasten early resolution. But in spite of their advocacy in the text-books, the rank and file of the profession do not take to them kindly.

Antiphlogistine now enjoys perhaps greater popularity in the treatment of pneumonia and other acute respiratory diseases than any other local application. This popularity seems to be well deserved. It may not modify the course of the disease to any great extent, but it certainly proves of the greatest comfort to the patient, and helps to ameliorate some of the troublesome symptoms which are characteristic of the disease. Antiphlogistine must therefore be considered a distinct addition to our therapeutic armamentarium.—*The Medical Standard*, March, 1904.

THE TREATMENT OF SYMPTOMS.

In a highly interesting article on this subject, Walter M. Fleming, A.M., M.D., of New York City, uses the following language :—

" Long experience in the treatment of diseases in their incipiency, evidences beyond all debate, that almost invariably the attack in a large proportion of cases is inaugurated by febrile symptoms of greater or lesser severity. Also, it may be noticed, that constipation or torpid inactivity of the bowels prevails. Therefore, the first indication in the incubation or incipiency of the attack, of almost any form or nature, is primarily to allay the fever, pain-nervousness and solicitude of the patient, and secondarily to empty the alimentary canal. These two ends being accomplished, a long advance towards a possible abortive issue of the attack has been made, or in any event, the first indication and requirements are fulfilled, in proper progress toward a cure.

Thus in the primary treatment of the numerous ills, which are characterized by the above quoted symptoms, the physician will find Laxative Antikamnia and Quinine Tablets at once handy, convenient and reliable, safe and sure, and to which the turbulent symptoms of fever, constipation, pain-sleeplessness, nausea and generally wretched depression yield so promptly and gracefully, that it is certainly refreshing to the physician himself to note the change in his patient from suffering and solicitude to comfort and quiet. I certainly know of no other remedy which will so readily and decisively allay and control the symptoms above enumerated."

WHEN YOUR CASE IS WEAK ABUSE THE OTHER SIDE.

This maxim has been a favorite standby with the legal profession from time immemorial and unfortunately certain pharmaceutical manufacturers have recently seen fit to make use of that maxim. This is particularly true of the manufacturers of a certain iron preparation.

The impudence and effrontery with which these people try to hoodwink the medical profession is rather remarkable.

No other preparation ever came before the medical practitioner with so little detail as to methods of preparation, composition, therapeutic effect, etc., etc., and nevertheless the profession is asked to accept the wildest and most extravagant statements as to its wonder-working capabilities. This is not all. The makers of this preparation, in seeking the support of the profession, covertly attack and sling mud at all other iron preparations that have been before the profession for years. They single out Pepto-Mangan, a combination which has stood the tests of the leaders in the scientific medical world both here and abroad, an organic iron combination in which, in its results, the general practitioner and the hospital clinician have learned from experience to place implicit confidence.

This unbusinesslike method of attempting to cast discredit upon other reliable and thoroughly tested combinations we cannot term otherwise than despicable, and furthermore we know our readers cannot be influenced by unsupported statements of financially interested parties, but will always bear in mind that Gude's Pepto-Mangan was submitted to the profession as an organic iron product, and the results obtained by its use, as also the scrutiny of analysis by chemists of repute, substantiate all that has ever been claimed for it.

Attempting to foist upon the attention of the physician a product simply by insinuation that known articles are inferior, is a manner of doing business which should receive the stamp of disapproval by every one of our profession.—*The Toledo Medical and Surgical Reporter, April, 1904.*

BATTLE & CO.'S PREPARATIONS.

Battle & Co.'s preparations are now manufactured in Canada, thus saving cost of customs to the consumer. Messrs. Lyman Bros. & Co., of Toronto, are the agents. Any physician wishing to test Ecthol can get full-size (12 oz.) bottle free by sending 25 cents, to pay express charges, to Messrs. Lyman Bros. & Co., Toronto. Battle & Co., Chemists Corporation, St. Louis, Mo., U.S.A.

Dr. E. J. Barrick, Toronto.

President of the American Congress on Tuberculosis, meeting in St. Louis, October 3, 4, 5, 1904.

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PHYSICIANS RATED BY POST-GRADUATE WORK.

By JOHN HUNTER M.B., Toronto.

IN industrial and commercial life there are agencies in which the ability and financial standing of those engaged in such pursuits can be ascertained. According to what is known as the "rating" of such agencies men are judged. In medicine, there are no such special agencies for "rating" its members; and yet, there are influences at work that do very accurately define the progress being made in medicine; and "rate" physicians — individually and collectively — as to their financial, literary, social and professional status.

MEDICAL PROGRESS.

We have abundant evidence, in private practice, in our hospital work and hospital equipments, in the work of our health boards, in the more recent text-books, in medical journals, and in the curricula of our medical colleges, to establish our "rating" in technical knowledge and skill as being the peer of that of any other calling. Whether any other calling can show as high a "rating," in these respects, as the medical profession can, I am not prepared to say, perhaps the editor can, but in any event we have a status of which we can justly feel proud, and one that has been carried by faithful, intelligently-directed toil.

LITERARY STATUS.

"In the good old days, the doctor was the best loved and most important man of his community. Wisest of philosophers, broadest of thinkers, best and truest of friends was he. He was the social and intellectual beacon of the social system in which he worked. He was a centre of influence from which all things radiated, and he was appreciated by his clientele. They regarded him as the world of science did Darwin—as "a mighty intellectual ocean toward which all rivers ran." In the literary world he was one of a privileged class, a member of a learned profession. To-day, the physician occupies no such standing in public estimation. Such is the immense amount of technical knowledge to be acquired, that the medical student is practically obliged to give up

all literary work as soon as he matriculates. His brothers and sisters go on and take a much more advanced course in the collegiate institutes, or graduate in Arts at a university. These, and now-a-days their number are legion, know the meagre literary attainments of medical students; and, therefore, can never have very much respect for "the learning of the doctors." Less than a quarter of a century ago, the literary "rating" of the doctor was on a par with that of the university graduate; now, he can only be graded with the higher forms of our public schools, and intermediate classes in the collegiate institutes. This low literary "rating" of medical students, is not the result of any desire on their part to be less erudite than their former classmates; but it is entirely due to the enormous progress made in medicine. Compare the medical curricula of to-day, with those of thirty years ago—the length of the course is practically doubled, and the amount of technical work quadrupled. Then, too, higher education was the privilege of the few; now, it is the boon of the masses.

FINANCIAL STATUS.

The income of the average practitioner is, probably, as large now as it was a few decades ago, when he was looked upon as "a man of substance," whilst the fees of fhe specialists are, doubtless, much larger than those obtained by the most eminent men of those days; yet, the medical man is no factor, in reality he is completely ignored now in the financial world. We have not, far to look for this apparent anomaly. Fifty years ago, such were the limits of trade, that industrial and commercial firms could easily distribute all their goods with one wagon. In our day, individual manufacturers and merchants have combined their capital, formed strong joint stock companies, and have laid the whole world wide tribute to fill their coffers. Formerly, the financial "ratings" of these men were by the tens of thousands; to-day, by the millions. What chance is there for doctors to compete for riches under such commercial expansion as now exists? The financial "rating" of the average physician is simply on a par with that of the better class of skilled artisans.

SOCIAL STATUS.

Any rapid increase in wealth creates a class who have leisure and social distinction. Physicians and their families formed quite an important factor of this privileged class in the first half, or more, of the past century. This was due to the doctors' literary, financial and social status in that age. Now, however, owing to the "output" of our colleges and universities, any hostess of social distinction can fill her

drawing room with scores of literary people who can discuss novels or give readings with far more effeminate grace and elegance than the busy practitioner can, whilst the plainer attire of the physician's wife and daughters is simply submerged under the lustrous jewels and rustling silks of the wives and daughters of these commercial "kings of finance." The latter occupy all the space in the social columns of our daily papers. And not alone in his literary and financial status has the doctor's decline been noticeable, for has not the social distinction that went with his title for centuries faded away since the abbreviation "Dr." is emblazoned on the door plates of a score of diverse crafts? The social rating of the doctor, or more accurately, of the feminine portion of his household is on a par with the average church member of good standing.

The medical pessamist may look upon his literary, financial and social status with gloomy forebodings, and justly so, if these elements were the main factors in a doctor's life. There is another picture to present in which the great mission of the physician's life is portrayed. In the same decades in which the above mentioned changes were taking place there were accomplished many of the greatest achievements to be found in the whole history of medicine. Turn back the pages of its history and see the fearful ravages on human life made by plagues, the helpless, hopeless condition of the physically deformed, and the intensity of suffering for which there were no means of alleviation. Compare all this with present conditions and see—in the prevention of disease, in the abbreviation of its course, in the removal of deformities and in the mitigation of suffering—achievements which, in greatness of results and in beneficence of character, far overshadow any achievements that have been won in literary, commercial or social life. What wots the old hero, of his torn garments, scarred features, or maimed limbs, when he has held the fortress or "scaled victory's heights?" or why the physician bemoan the loss of some literary frills, the want of riches or social distinction, when he, too, can achieve the most splendid victories over disease—one of man's greatest enemies. He has this consolation, also, that the public ask no questions about the examination marks, amount of wealth or social distinction obtained by a Lister, a Virchow, a Koch or an Osler, nor will they ask about his status in these fields if he imitate the example of such men as these.

PROFESSIONAL STATUS.

Whatever the physician may, in regard to his status as compared with that of a member of any other calling, it should be a matter of vital importance to him to stand high in the estimation of the members

of his own profession. Their estimate of him, is after all, the only true gauge of the real character of his life and work. The only wand with which he can conjure his fellows is merit, efforts to conjure with anything less worthy belong to the domain of the charlatan, and therefore is unworthy of notice. The question that now arises is, what are the factors, that give a physician his rating in his own calling. There are many, but space will only permit of a very brief reference to a few, and out of these, the following are selected, viz., worth and work.

WORTH.

Worth is to be defined as moral character and the statement is simply axiomatic, that without a high moral character there can be no such thing as true success. This phase of the question need not be elaborated further than to state what is included in the term worth. It includes, in addition to a strict fidelity to truthfulness, honesty, purity, charity—the cardinal virtues—the possession of a courteous manner, æsthetic tastes, business ability, and a consecrated devotion to his profession.

WORK.

The high standard demanded of the graduates of any reputable medical college, is a sufficient guarantee that the young physician has the necessary technical knowledge and skill to enable him to enter the ranks of his professon. Physicians, in so far at least, as their education and skill, are concened, begin practice on about a common equality. This being the case they must depend upon the character of their post-graduate work for their 'rating'. Amongst their fellows, what factors can help the young physician in his work? Each reader, will doubtless have in mind some things that he would suggest, as being of especial value. However, it is only possible to deal with one or two of the common and most essential factors in a brief article like this one. Of these, the following deserves consideration: 1st. A full and truthful record to be kept of every case. This is an emperative duty for many reasons. These records are indispensable as references. It is a work that gives an inspiration to the desire for accuracy. It is a splendid educator, in the way of helping a physician to express himself in technical and intelligent terms. How much the interest in a case is affected by the manner in which it is described. It is of inestimable value to the physician in helping him to estimate the progress he is making. A faithful record of successes and failures is the crucial test of progress or retrogression. Those of us, and the list, it is to be feared, is altogether

too long a one, who have been dilatory is keeping a trustworthy record of our cases, have failed, in so far as we have been negligent, to secure the full benefit of one of the best auxiliaries the physician can have to help improve the character of his work.

EQUIPMENT.

In equipment as in education there is a pretty uniform equality amongst physicians when they begin practice. Some office furniture in the way of a table, lounge, chairs and a book-case containing his college text-books, and a limited supply of instruments. His street or road outfit consists of a cane, a bicycle or a horse, a silk hat and a grip. Five or ten years later we find that certain changes have taken place—the silk hat has been abandoned or only worn for esthetic effects, it is no longer looked upon as an essential part of his outfit. The brand-new grip has lost most of its polish, has become, if the owner uses a horse, flavored with the aroma of the horse-blanket and grimy from the dust of the foot-board. The contents of the grip have degenerated *pari passu* with itself—an aged pair of obstetric forceps with rusty locks and blades depleted of every vestige of nickel plating, a pocket-case bereft of its lining as well as of many of its instruments, a few packages of by no means aseptic gauze and absorbent cotton, a half empty pasteboard box of ointment, some ergot and other drugs. Let us now take a glance at the average medical library after the physician has been in practice a decade or more. A few antiquated text-books, perhaps a number of the bound volumes of a medical journal and a heterogeneous collection of simple journals, and excerps from commercial firms booming their wares. Could anything else produce a deeper blush of shame that should never come off the physician's cheek, than his wonton neglect of his library? Hundreds of honest, hard-working physicians go through life with a grip and a collection of instruments, little if any better than the outfit of a nondescript tinker, and a library only the famished skeleton of what it should be. It may not be true that a good outfit will make a good doctor, but it is true that proper equipment is an immense aid to any man. Can't we learn something from the progressive farmer, manufacturer or merchant. There are farmers who spend more on a dozen of eggs, and ten times more on a well bred calf, sheep or pig, than his family physician does in a year on instruments or books. In large cities, individual industrial firms may spend more on one new machine than all the doctors put together do on their equipment. The result of this wise expenditure in these callings is seen in the trade returns. These returns used to be counted up by hundreds

of thousands, now by hundreds of millions. How can a physician expect a high rating in his profession if his skill is impaired by defective instruments, and if he allow his brain to stagnate and starve for want of suitable medical literature?

POST-GRADUATE COURSE.

In the preceding paragraph an effort has been made to point out the value of equipment in the way of instruments and books. These, by no means supply all a physician's needs. He must supplement them with a post-graduate course, if he wishes to have a high professional rating. Until now doctors have been obliged to go abroad for a post-graduate course, and very interesting, as well as intensely amusing, are the stories of the efforts many of these men have had to put forth to obtain the necessary funds for such a course. They have traded horses, hunted up insurance cases, sold sewing machines, organs or pianos on commission, also practised much self-denial. These men say now that it is far easier for them, without resort to any special efforts, to raise five or ten times the same amount for a second course. The reason for such a change in financial circumstances is not hard to find. On their return from the first course, they found themselves, not only better equipped for their ordinary work, but that they were also able to do a greater variety of work, hence an improvement in professional rating, or if a more mercenary explanation be needed, they were capable of earning more fees and larger ones. The medical faculty of the University has taken the first step in the way of providing a post-graduate course. This is certainly a movement in the right direction and should receive the most hearty support from the profession of Ontario. In June, for two weeks, a special course will be given in laboratory work, whilst in the different hospitals, clinics will be held. Some of these hospitals have special features. Sick children's hospitals with its cots, nurseries and play rooms; the Orthopedic with its appliances for treating deformitories, and the Western with its elaborate tent system for the open air treatment of disease. Any physician will find this course profitable, but it will be of especial value and interest to rural practitioners and those in towns and cities not engaged in active hospital work. Physicians will not only see much and hear much that will be of great value to them in their work, but will also find much social enjoyment in meeting old acquaintances, and in forming new friendships. To study the characteristics of the people we meet, especially those of our own craft, should be a very important part of our education.

ONTARIO MEDICAL ASSOCIATION.

The meeting of this association follows the post-graduate course. In the person of Dr. J. F. W. Ross we have an ideal president, cultured, progressive, courteous, and tactful. Under Dr. Ross and his active assistants success is assured. This meeting promises to be the best of the series yet held. Seventy-five per cent. of the physicians of Ontario will be in attendance if they fully appreciate the duty they owe to themselves and to their professional rating.

NOTES ON "BIOGRAPHIC CLINICS."

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IN the spring of 1903 a book with the above title appeared, written by Dr. G. M. Gould, of Philadelphia. The book was a startling one, and attracted wide attention from the lay press. It was startling because it purported to give the underlying cause of the illnesses of some of the greatest of modern authors and scientists, namely: Carlyle, Darwin, Huxley, De Quincy and Browning.

Up to the time of the appearance of this book no one had suspected that the illnesses spoken of were other than affections of the stomach liver, heart or nerves.

About two months ago the second volume of Biographic Clinics appeared. In the preface to this the author complained of the way in which the first volume was received by the medical press. The medical editors either kept silent, gave a perfunctory notice of the book, hinted dissent, or were down-rightly contemptuous. A few welcomed and assented, but there was "hardly one that summarized for readers a clear and satisfactory statement of the thesis, facts and arguments of the book." Therefore, the author thinks that medical men generally are not in possession of the facts.

The author of these books is not a man of no authority. He is the editor of one of the best of American medical journals, he is the editor of the splendid medical dictionary bearing his name, and an ophthalmogist of very high standing. The ideas of such a leader of thought should be known, and most respectfully considered by every medical man. To this end the books shall be summarized as fairly and as briefly as possible.

A word in the first place as to what is meant by the term "Biographic Clinic." Essentially this means the study of the whole life, the

biography of the patient. This would be the biographic method of discovering medical truth—a "biographic clinic." Dr. Gould thus deals with this subject:—

"Most physicians busy themselves with the single illness of which the patient presenting himself complains, and medical practice consists almost always of such treatment of the temporary and single complaint. The repetition of the affection at a later time is treated in the same way. There may be some vague connection noted by the physician between the two or more illnesses, but, at least in cities, the rapid elimination of the old-fashioned family physician, who attended one patient and family for a lifetime, is fast making even that poor overlook impossible.

"Concurrent affections, and those of organs treated by specialists, were, moreover, not noticed, and a dozen symptoms of minor diseases were not thought of, or were listed as discrete, and without casual or related nexuses. If any physician rose to a philosophic gathering of the facts of his individual patient's several illnesses, he hardly succeeded in looking over the entire life, and subjecting the symptoms and diseases of the whole personality to a rigorous analysis and co-ordination.

"Lastly, none has ever thought of bringing a large number of clinical life-histories into comparison and producing a composite photograph of the complete pathologic findings. And just this method, one would think, would have been early seized upon as that certain to bring to view medical truths otherwise remaining hidden from the observer. The method as applied to fourteen patients with one disease, has yielded unexpected discoveries and demonstrated a unity of cause and of diverse symptoms that was wholly unforeseen."

The above is the method which our author has adopted in studying the lives of fourteen of the world's great literary workers, both men and women. And with what result? He claims to have discovered that every one of these whose lives are noted in his two books, suffered from eye strain, due generally to some form of astigmatism.

This result is surely sufficiently startling to demand the attention of every medical man. And every one must be interested in the answer to the question—is it true that there are so many cases of eye strain not diagnosticated?

Dr. Quincy is said to have suffered from some neuralgic condition of the stomach which caused him to become an opium eater (at one period of his life he took 340 grains of opium daily). Carlyle suffered agonies from what he calls "this infernal disorder of my stomach." Darwin had palpitation of the heart and a supposedly chronic stomach

trouble being liable to a "bad form of vomiting." Huxley had dyspepsia, and, as he himself says "an absurd stomach," while Browning was a martyr to headaches.

Turning to the second volume, it contains biographic notes upon George Eliot, George Henry Lewes, Wagner, Parkman, Jane Welch Carlyle, Whittier, Margaret Fuller Ossoli, and Nietzche. These all suffered from headache, sick headache, dyspepsia, nervousness, melancholy, and insomnia, as did those metioned in the first volume, spoken of above.

Every modern ophthalmologist knows that the symptoms just mentioned are those seen in connection with eye strain. But these same symptoms are seen in connection with other conditions of the system not dependent upon the eye. How, then, can our author consider them pathognomonic of ocular abnormalities? It would be impossible in an article such as this to give all the reasons—but two may be mentioned.

1st. The headaches, stomach troubles, the migraines, the palpitations of the heart, etc., ceased to a large extent just when the eyes were not used for near work, but returned when near work was taken up again. 2nd. The troubles of the patient ceased usually after 60 years of age, that is, when the ciliary muscle had lost its power of accommodation. Speaking generally, these 14 men and women lived lives of happiness after the period spoken of.

We are now, I think, prepared to consider these three questions:

1st. Is it true that eye strain was present in all of these cases?

2. Were there, in any of them, other factors causing suffering besides eye strain?

3. Is it true that, by proper spectacles, all the suffering could have been removed.

The first question must be answered in the affirmative by an oculist acquainted with eye strain. In other words, let a patient present himself to an ophthalmologist with a history such as has been picked out by our author from the writings of the men themselves, and a diagnosis of eye strain would be made in probably every case. This would lead to a thorough examination being made, by which means the truth, or falsity of the diagnosis would appear.

An answer to the second question could only be given after an examination of each individual patient. While admitting the probability—judging by the remarkable results of the biographic method of study as brought out by Dr. Gould—of eye strain being the underlying cause, he would be a bold man that would declare that no other factors were pre-

sent in some, at least of the cases presented. Only, we believe, by the combined efforts of the attending physician and ophthalmologist could this question be answered satisfactorily.

To answer the third question we should first have to know what answer had been given to the second. If no other factor existed, in other words, if eye strain was the cause, the answer is yes. For, in the the vast majority of cases, the strain can be effectually relieved, and the outward symptoms will thus be removed.

Dr. Gould has, by the publication of these books, rendered a notable service to medical science. He has done this in two ways.

In the first place, by giving to the world a new way or method of discovering medical truths, namely, the biographic method.

In the second place, by his discovery of the fact that many of the literary men of the past century suffered from uncorrected astigmatism.

Which of the two discoveries will ultimately be of the greatest benefit to humanity is a question open for discussion. The one may primarily advance medical truth, the other will directly benefit suffering humanity. For although the evils of uncorrected astigmatism are now recognized in many quarters, in some they are not realized. The latter discovery of Gould's, and the forceful way in which it is put, will certainly bring to the minds of medical men everywhere the importance of eliminating eye strain as a possible cause of anomalous nervous conditions, and will thus be the means of lessening the amount of suffering in the world.

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ARTERIAL DEGENERATION.*

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THE arteries being physiologically related to every tissue of the body, their inflammatory and degenerative disorders possess more than local importance, while their pathological relationships extend far beyond the limits of the vessels themselves.

Disease of the arteries is specially associated with morbid processes of a degenerative type; hence the truth of the aphorism, that, "a man is only as old as his arteries." It depends upon a large variety of causes, of which the most important are syphilis, gout, alcoholism, lead-poisining, mechanical overstrain, the infective diseases, and senility.

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*The Edinburgh Medical Journal, May, 1904.

The situation of the disease is in some cases determined by the cause. Thus, gout produces its most marked artertial changes in the vessels distributed to the kidney; syphilis, in the vessels of the brain; and mechanical strain, in the larger arteries, particularly the aorta.

Clifford Allbutt differentiates three forms of arterial sclerosis—(1) *Toxic*, the effect of lead-poisoning and of certain infective diseases; (2) *involuntary*, the results of senile decay; and (3) *secondary* the consequence of arterial hyperpiesis. Though these varieties differ, from the point of view of causation, their symptoms are so interwoven that clinically they closely resemble one another.

The three tunics—the intima, the media, and the adventitia—which compose the arterial walls may, each or all, fall under the influence of inflammatory processes, which are partly degenerative and partly regenerative. It is important to remember that in the aorta the intima is thicker, and the adventitia thinner, than in the smaller arterial vessels; that in the brain the arterioles are enveloped by a perivascular sheath; and that a congenital smallness of the arterial system—hypoplasia—is conspicuously associated with chlorosis.

Degenerative changes occur most frequently after middle life, and are specially apt to happen in those who follow laborious occupations, who have lived freely, and who have contracted or inherited syphilis. Certain families display an unaccountable tendency to early arterial decay.

The acute forms of arteritis are not common; they mostly arise, when local, from inflammation in the neighborhood of an artery, or from infective embolism such as often occurs in malignant endocarditis; and, when general, from such specific diseases as influenza, enteric fever, or acute rheumatism. The chronic varieties are the most important, and derive their interest mainly from the complex pathological condition of atheroma, in which so many of them terminate.

By some authorities atheroma is regarded as a morbid condition totally distinct from arterial sclerosis. Pathologically it may be so, but etiologically they are closely allied, and clinically they can seldom be differentiated. In many instances, the one is the direct consequence of the other.

No vessel is exempt from the possibility of degenerative change, but those that suffer most frequently are the aorta, the coronary arteries and the arteries at the base of the brain. The gastric, hepatic, and mesenteric vessels usually escape.

An artery, the walls of which have become degenerated, is hard and resistant; it is of large calibre, its tension is increased, and, to the naked eye, it is prominent, tortuous, and locomotive. So far as the

deeper vessels are concerned, the diagnosis of their condition can only be a matter of inference; but the occurrence of otherwise unexplained disturbance in an organ should always suggest that similar changes to those visible in the superficial vessels have become established in its capillaries and arterioles.

In every case of advanced atheroma, the aorta is involved. This is manifest by abnormal dulness over the manubrium sterni; pulsation in the episternal notch, or in the second right inter-space; and a muffled systolic murmur, followed by an accentuated second sound in the aortic area.

In consequence of increased peripheral resistance, the heart is hypertrophied, especially the left ventricle.

Most chronic forms of arteritis are probably associated with an altered quality of the blood. This is often dependent upon impaired metabolism, which in its turn is frequently due to toxæmia. Hubard's contention, that there is a prodromal stage in which increase in peripheral resistance is the result of irritative spasm, without actual organic change in the vessel walls, is therefore not unlikely, and is worthy of attention, because it indicates a primary stage during which much may be done to arrest or delay the degenerative process. When sclerosis is once established, it is incurable, and always tends to be progressive. In spite of it, the patient retains good health, as long as the cardiac hypertrophy is sufficient to counterbalance the increased peripheral resistance; but he is all the while living on the brink of a precipice, over which the most trifling occurrence may suddenly project him. The organ or tissue in the vessels of which the disease process has advanced furthest is obviously in greatest jeopardy. Dangerous developments are specially to be feared in the heart, brain, kidneys, lungs or lower extremities.

1. Heart.—The compensatory hypertrophy of the left ventricle, to which reference has already been made, is a physiological provision for maintaining the equilibrium of the circulation under pathological conditions. It does so successfully, often over a period of many years, but the compensation may fail at any moment; and though this is brought about by many causes, none is more frequent than advancing atheroma of the coronary arteries, in consequence of which the cardiac walls are inadequately nourished, and subsequently undergo fatty or fibroid changes. The ventricle soon fails to overtake the resistance in front; it empties itself imperfectly, and so there arises increase of internal pressure, which, acting upon softened walls, leads to dilatation with all the evil consequences of backward obstruction consequent upon such a catastrophe. A slow or arhythmic pulse, with occasional slight attacks

of dyspnœa and pain in the chest, is always suggestive of coronary implication in a patient who is the subject of thickening and tortuosity in his superficial vessels.

Besides dilatation, other serious cardio-muscular phenomena are liable to follow. Of these the most important are:—

(*a*) *Coronary thrombosis.*—This may occur at any time, though it is most frequent in advanced stages of atheroma. It is often responsible for sudden death.

(*b*) *Aneurysm of the heart.*—The degenerated myocardium may, under the influence of a very slight strain, yield at some specially weak point. An aneurysmal bulging results, of which there may be no symptoms until death suddenly occurs from rupture into the pericardium.

(*c*) *Angina pectoris.*—There is no difficulty in recognising this condition when it presents the classical signs of sudden præcordial anguish, pain radiating down the left arm, inability to lie down, and a terrifying sense of impending death. But in milder cases the præcordial distress is less pronounced, and, if not carefully investigated, is too often misinterpreted and erroneously attributed to rheumatism.

(*d*) *Stokes-Adams disease.*—In this rare condition, the symptoms referable to the heart are accompanied by phenomena referable to the brain. All the cases so far recorded have happened in patients of advanced life with atheromatous vessels. The pulse-rate is always phenomenally low—usually between 20 and 30, and occasionally even under 20—and is associated with recurrent cerebral attacks, which are, in some instances, vertiginous in type, in others syncopal, and in others again epileptiform. They are liable to be induced by slight exertion, or by any other circumstance which adds to the work the heart is called upon to do, and they are never followed by paralysis or other important sequelæ. The pathological explanation is, probably, degenerative disease, simultaneously involving the arteries responsible for the nutritive supply of the heart and of the medulla.

(*e*) *Aortic aneurysm, or valvular disease.*—The symptoms of both these conditions are well known, and though inaugurated by various other causes besides atheroma, become, sooner or later, associated with retrograde changes either in the walls of the aorta or in the cusps of the valves.

2. Brain.—Cerebral symptoms are many and various. The loss of elasticity and partial occlusion of the arteries of the brain, together with the enfeebled action of the heart, predisposes to cerebral anæmia. At first this is temporarily induced by physical effort or mental excitement, and may produce only a passing vertigo, monoplegia, hemiplegia, or

aphasia. Vertigo is a specially common symptom, and may be either simple, or accompanied by a permanent slow pulse and intercurrent syncopal or epileptiform attacks (Stokes-Adams syndrome).

As the arterial disease increases, it tends to produce a more chronic and permanent type of anæmia, which is manifested by mental apathy, irritability of temper, tremor, slurred speech, loss of memory, and headache of varying intensity,—a combination of symptoms closely resembling those met with in general paralysis. In still more advanced stages, degeneration of the cerebral vessels become responsible for (*a*) A constant risk of hæmorrhage, from rupture of a miliary aneurysm. Such a rupture may occur anywhere, and the consequent symptoms will vary according to its situation, but the lenticular artery more frequently yields than any other, and the consequence is hemiplegia. And (*b*) cerebral softening, from necrosis of tissue throughout whichever area is deprived of its vascular supply by occlusion of the vessels distributed to it.

3. KIDNEYS.—Renal symptoms supervene in a large number of cases of arterial disease, and correspond to those we are accustomed to associate with chronic interstitial nephritis. The urine is abundant, of low specific gravity, contains an intermittent trace of albumin, and is liable to become deficient in urea. The general health continues good, even over many years, but the patient is never free from the risk of an acute nephritis or of uræmia. It is often impossible to be sure whether the arterial or the renal disease is the primary pathological event; either seems to be capable of producing the other.

4. LUNGS.—The pulmonary symptoms which accompany arterial degeneration are those indicative of bronchitis and emphysema, with all the concomitant dangers of right heart failure.

5. LIMBS.—Atheromatous changes in the vessels of the lower extremities, especially in the popliteal and tibial arteries, are responsible for the development of senile gangrene, which is often preceded by persistent and obscure anasarca of the ankles and legs. The tissue changes which are produced by chronic arterio-sclerosis often terminate in fatty and calcareous alterations in one or more of the arterial tunics. The vessels become hard, inelastic, and tortuous, and their walls are the seat, first of proliferative and afterwards of degenerative processes. The pathological sequence of events is thus succinctly described by Mott:—"It is primarily defective metabolism and strain. Physiological compensation—that is, increased functional activity of the left ventricle to overcome the increased peripheral resistance in the arterioles and capillaries—ensues and leads to hypertrophy of the muscular structures engaged, and to dilatation of the elastic aorta and large arteries. In the

second stage, there is thickening of the vessel wall, mainly of the intima, proportional and compensatory to degeneration of the muscular and elastic tissues. In the third stage, the compensation process fails, so that, should the patient escape the danger of cerebral hæmorrhage, he may succumb in the final stage to blocking of his coronary arteries and consequent cardiac failure. Herein the general deficiency of nutrition, which alters the whole metabolism of the body, leads of itself to the failure of the physiological compensation which had been set up, and the insufficiently nourished muscular structure of the heart is unable to overcome the resistance in front. Dilatation of the left ventricle then follows, and mitral regurgitation, congestion of the lungs (frequently emphysematous), and dropsy, partly cardiac, partly due to changes in the capillary walls and the hydræmic condition of the blood, complete the vicious circle."

Arterial degeneration has established relationships with so many varieties of disease, that it cannot be looked at, from the prognostic point of view, as an independent affection. The outlook is always most hopeful for those who are sufficiently well off to be able to shake themselves clear of occupations which involve mental or bodily strain, who can escape from the rigours of cold and inclement weather, and who, at the same time, are sufficiently disciplined to make good use of their leisure and to avoid excess of all kinds. When there is evidence of tissue changes in the brain, heart, kidney, or other organ, the prognosis is rendered thereby correspondingly grave. The more extensively distributed such evidence is, the more numerous are the dangers by which the patient's daily life is beset.

There is no difficulty in recognising arterial sclerosis when it has become developed in the superficial arteries. The occurrence of functional organic disturbances justifiably warrants an inferential diagnosis of arterial disease when the vessels which come within reach of physical examination are manifestly thickened. Persistent increase of arterial tension is significant of commencing organic changes in the vessel-walls. A hard, resistant, tortuous temporal or radial artery throws a flood of light on the probable immediate cause of an apoplectic seizure, or on such cerebral symptoms as vertigo, ephemeral aphasia, loss of memory, mental dulness, or persistent headache; on such cardiac symptoms as dyspnœa, præcordial pain, anginal attacks, or palpitation; on such nephritic symptoms as a copious secretion of pale urine, of a low specific gravity, containing occasional traces of albumin; on such pulmonic phenomena as emphysema, breathlessness, and cyanosis; and on such peripheral symptoms as coldness, blueness, and ultimate gangrene of a limb.

The following points may be noted as of prominent diagnostic importance:—

1. The patient is past middle life or bears the stigmata of premature senility.

2. The superficial arteries are hard, prominent, tortuous, and locomotive.

3. The pulse is resistant, of high tension, of a variable rhythm and of diminished amplitude.

4. The heart is hypertrophied, especially the left ventricle. The second aortic sound is accentuated, and, if dilatation takes place to any degree, a systolic murmur becomes established either at the apex or in the left auricular area.

5. Organic manifestations are frequent and diverse. They vary according to the seat of maximal distribution of the diseased vessels.

6. There is, in a large proportion of cases, a history of syphilis, alcoholism, or physical strain. In many, the patient pleads guilty to all three.

7. There may be a family history of gout or of some other constitutional instability, which conduces to imperfect metabolism.

In the matter of treatment, the first recommendation which should be made to a patient suffering from degenerated arteries is that he should avoid stress of all kinds. He should lead a quiet and uneventful life, curtail his business responsibilities, avoid every form of dietetic excess, and take a reasonable amount of exercise in the open air. Alcohol is contra-indicated, and if taken at all, must only be indulged in with meals and in small quantity. The food should be varied and simple, and red meat is best minimised, especially in patients of a gouty diathesis. The bowels must be thoroughly evacuated once a day, and a course of simple tonics—quinine, arsenic, strychnine, phosphorus, iron, the mineral acids, etc.—given now and again to promote the maintenance of nutritional activity.

Apart from these general principles, each case must be dealt with according to its special indications. When anginoid attacks follow on vertigo and dyspnœa, and are accompanied by a high tension pulse, the patient should be kept in bed, fed on simple food, and ordered the following mixture, three or four times in each twenty-four hours:— Iodide of sodium 10 grs.; solution of nitro-glycerin, 1 per cent., 2 minims; Fowler's solution, 3 minims; decoction of bark, 1 oz. He should also have 1 gr. of calomel at bedtime, every night for a week, followed in the morning by a sufficient dose of sulphate of soda or sulphate of magnesia to ensure a satisfactory result. If compensation has broken down and

there is evidence of cardiac dilation, digitalis should be given, and its constrictive effect upon the arterioles may be counteracted by combination with nitro-glycerin; tincture of digitalis, 15 minims; solution of nitro-glycerin, 1 per cent., 1 minim; solution of strychnine, 5 minims; peppermint water, 1 oz. This mixture should be taken every six hours, until the regularity of the pulse becomes re-established; it may then be continued in half doses until the pulse-rate has become normal, when it should be replaced by some such combination as this pill:—Reduced iron, 4 grs.; extract of strophanthus, $\frac{1}{4}$ gr.; strychnine, 1-30 gr.; extract of rhubarb, $\frac{3}{4}$ gr.—To be taken three times a day after meals, Stimulants are necesary, as a temporary measure, and are best given in the form of champagne or brandy, in such amount as the necessities of the condition demand. If the cardiac failure has gone so far as to produce engorgement of the liver and lungs, with dyspnœa, cough, and cyanosis, venesection should be adopted without hesitation, either by the abstraction of 8 or 10 oz. of blood from the median basilic vein, or by the application of eight or ten leeches over the tender edge of the liver.

The treatment of cerebral manifestations, aneurysm, thrombosis, renal disease, emphysematous bronchitis, gangrene of the limbs, etc., must be carried out on general principles, but with a full appreciation of the leading etiological relationship in which arterial degeneration stands to each and all of them.

If it be borne in mind that persistent increase of tension in the arterial system is the constant forerunner of changes in the vessel walls, something in the way of preventive treatment may be possible of achievement. The patient should have his position fully and candidly set before him, and ought to be made clearly to understand that his future health is very much in his own hands. A life of careful and uneventful regularity, frugal meals with special moderation in the nitrogenous elements of food, freedom from excess of work and worry, and the maintenance of the ordinary bodily functions in normal activity, will do much to stave off the evil day of incurable atheroma. Where there is a clear history of syphilitic infection, short courses of iodide of potassium and mercury should, from time to time, be prescribed. If such a patient desires to give himself the best chance of a long life, he ought to abstain wholly from alcohol and tobacco. Note should be periodically taken of his pulse, and any excess of tension reduced by a few evening doses of calomel and a short course of iodide of sodium and nitro-glycerin.

THE X-RAY TREATMENT OF CANCER OF THE SKIN.

By Dr. LEREDDE, Paris.

THE communication which I have the honor of presenting to the Academy of Medicine, is intended to show the utility of radiotherapy in the treatment of cancer of the skin and to mention some interesting facts deduced from 15 cases treated during the last few months.

The treatment of epitheliomata of the skin, by the x-rays, practised for some years in Germany, Austria, England and the United States, and which has met with an increasing favor in these countries, has now been accepted in France. It is well to make known both the advantages and disadvantages of this method of treatment, and to lay down the indications and contra-indications for its use. The literature at our disposal is sufficiently abundant to justify us in considering radiotherapy as an excellent curative agent in skin cancer and as being often preferable to all others.

I shall not dwell on the history of the subject, but shall merely mention that the bibliography is now considerable.

The x-rays may be dangerous if the technique of their employment is defective. In France, the fear caused by the accidents due to radiotherapy has been such as to render its study peculiarly difficult. But the technique has now become so perfect that the dose can be regulated and the action measured.

The therapeutic studies having been pursued at the same time as those devoted to the technique, we need not be surprised to find that the doctors who employed the x-rays remained for considerable time very cautious.

It is time to ask if the x-rays should always be employed in preference to all the other means which have been shown to be capable of curing cutaneous epithelioma. All sources of the x-rays can furnish rays of sufficient penetration to be utilised for radiotherapy.

The early observers were very soon in accord as to the necessity of employing soft tubes. The sittings were always long, and made at long distances, for example, 3 to 5 minutes each day at a distance of 20 to 30 centimeters. In these conditions, the cure of an epithelioma might take 6 weeks or 2 months.

Freund, in his recent book, declares that in the treatment of epithelioma as well as in that of lupus erythematosus, we may employ two methods: the one mild, the sittings being short and made at a long distance from the tube; the other strong, the sittings being long

and made by the patient being close to the soft tube. The first is preferred in lupus and epithelioma.

In the important discussion which took place at the 27th meeting of the American Dermatological Association, the speakers appeared mostly to employ the mild method, though certain ones remarked that in some cases the duration of the treatment might be very much shortened.

In the treatment of lupus, the choice between the two plans is often difficult, as the more intense method does not always secure the most rapid cure, because the injuries which it gives rise to, require a long time to get well. In the treatment of epithelioma the case is quite different, for experience has shown that the reparation has been more rapid just as the rays have been more freely used.

Brocq has published a method in which he employs a rapid technique of two sittings of 5 to 20 minutes. The sittings are afterwards resumed in a fortnight to accomplish a cure. The later treatments are short.

For my own part, in the therapeutic researches which I have made along with any assistant, Dr. Donat, I have come to the same technique, only that a few short sittings are made at the commencement at a great distance from the tube. Then a couple of treatments of 20 or 25 minutes are given at a day's interval, and 2 centimeters from a Villard's tube. It is possible in this way to obtain a cure in three or four treatments in some epitheliomata of adults.

It is possible that a cure might be accomplished in a single treatment in some forms of cutaneous epitheliomata. But to secure such a result it would be requisite to distinguish between the different clinical forms. There are some epitheliomata of the skin that are, to a certain extent, quite resistant to the x-rays, and it is important to know them. On the other hand, to act too energetically there is the risk of doing injury to the normal tissues adjacent to the neoplasm. It is much better for the operator, who is not absolutely sure of his technique, to avoid these injuries.

I have given the name of adult epithelioma to those neoplasms in which there exists an ulceration, covered or not by a crust and limited by a hard border. All epitheliomata of the skin may take on this phase, when it may become dangerous, invading and penetrating, though most frequently they remain mild. These are the epitheliomata which are remarkably relieved by radiotherapie.

When we sum up the matter some interesting effects are noticed according to the freedom with which the rays are administered. One of these is the exudation, sometimes considerable, which takes place. The

freer the exudate the more rapidly the induration disappears. I have seen a case with Dr. Donat in which there existed an epitheliomatous nodule the size of a large pea, on which there was a crust, improve at once; the crust fell off, the exudation was continuous, and the nodule disappeared in some days.

It is well to recall that pain and bad odor disappear if these are present. One of the best effects of the use of the x-rays, both in superficial and deep cancers, is the relief of pain, though we do not know the *modus operandi* by which this happy effect is accomplished.

Everyone knows that the x-rays act on the tissues without inducing painful phenomena, except in the case of acute radio-dermatitis. The total absence of pain during the course of treatment is of much importance and may induce the medical attendant to prefer radiotherapy to all other surgical proceedings, or the use of caustics. But in addition to the avoidance of an operation, which is very important to some patients, there is the valuable æsthetic results.

For one who studies the radiological treatment of cutaneous cancers it is curious to watch the reparation of the tissues under full treatment. In one case the patient presented an epitheliomatous ulceration on the side of the nose, sufficiently deep to admit the end of the little finger. As soon as the treatment was commenced there was an abundant exudate and the bottom of the ulcer gradually filled up to the level of the sound skin. The patient is cured and presents only a slightly depressed cicatrix, scarcely visible

In all the cases, the esthetic results are admirable. It is no exaggeration to employ this term. The perfection of the cicatrices, appear to me, to be very remarkable in epitheliomata of the nose. By no other means can we obtain equal results.

Of all the advantages of radiotherapy, the most important is the habitually definite character of the cure. This radical cure is not constant, as in some cases there is a return, but for the most part due to the too cautious or reserved employment of the rays. These cases are rare, according to the authors who have studied the question. Let us notice here to what extent the elective action of radiotherapy is manifested over epitheliomatous tissues. All the cancerous cells are eliminated or absorbed, as it appears, from a phagocytic process, and the smallest of the disturbing foci are destroyed.

If, in every case of cancer of the skin, one could obtain a definite cure of the lesions by a single treatment of radiotheraphy of 50 minutes, or an hour, the sitting being painless, even causing the disappearance of the pains due to epitheliomata to cease when these exist, with a perfect

æsthetic result, there would be nothing further required but to abandon all the former methods of practice. The question is not, however, quite so simple and among these methods some will point out their own indications.

In the first place, what ought one to do in epitheliomata complicated already by disease of the lymphatic glands? One may not know whether these glands are cancerous or not, and in this state of doubt it is right to intervene with the knife. It might be possible by vigorous efforts to treat the initial focus by radiotherapy. But for what good? Far better to remove all by a single operation.

The contra-indications as regards radiotherapy, at least as the exclusive method, appear to exist in the initial epitheliomata that are very dry, hard and rich in corneous substance. On this subject I shall recall an instance that interested me very much.

I was engaged to give some treatments by radiotherapy to a patient afflicted with vegetating epithelioma of the tongue. Of these epitheliomata, three in number, one was papiilomatous, presenting no hard covering; the other two, on the contrary, were covered by a corneous case. Treatment by x-rays was given to all at the same time. In two or three treatments of 20 minutes, the first focus began to disappear, the epithelial tissue disintegrating. At the same period the other tumors had completely resisted the action of the rays, continuing to resist for several additional treatments.

I have had charge of some small, hard epitheliomata and the cure has been slow to obtain by means of the rays.

These contra-indications deserve to be considered on account of their value. Our experience with radiotherapy is not yet great enough to enable us to point out its exact limitations. It will be necessary first to study its action in all the forms, varieties and types of the disease.

American authors have insisted on the success of radiotherapy in cancer of the lower lip In some cases this treatment appears to ameliorate the progress of the disease. There are some instances of cure of these cancers by this method, but it is much better to have recourse in all these cases to surgical intervention.

Among the forms which are specially improved by radiotherapy, I would point out those which occur on the eyelids. However perfect may be to-day the surgical technique in these forms, there always remains some contraction of the ocular orifice, which can often be avoided by the use of the x-rays.

By reason of its elective action on epitheliomatous tissue, radiotherapy may be employed as a secondary method of treatment to destroy what might remain of the neoplastic foci. Ablation is almost always

when it is performed freely, sufficient to obtain a cure without further return. Yet in all cases of doubt the surgeon will do well to make use of the x-rays to complete the cure. Curettage and chemical and thermic caustics can often remove a small amount of diseased tissues, restraining the return for some months. The cure would be almost certain if the action of these was completed by the use of the rays. They can be used in the epitheliomata of which I spoke a moment ago, as all cutaneous cancers contain some tissues which disappear under their influence.

In fine, radiotherapy furnishes us with an admirable method of treating cancer of the skin, of which the techniqe is almost settled, whose indications and contra-indications are nearly determined, and which brings considerable progress to the therapeutics of this malady.

THE TREATMENT OF THE PARAPLEGIA OF POTT'S DISEASE.*

By JAMES K. YOUNG, M. D.,

Professor of Orthopaedic Surgery, Philadelphia Polyclinic; Instructor to Orthopaedic Surgery, University of Pennsylvania; Clinical Professor of Orthopaedic Surgery, Women's Medical College of Penna.

THE paraplegia which complicates Potts' disease is of great interest since it is an affection of rare occurrence, under efficient conservative treatment. In mild cases its course is extremely favourable, and even in the severe degree, recovery usually occurs if treatment be begun early. Without treatment, or where treatment has been inefficient, the progress of the disease is very distressing and the prognosis hopeless.

The characteristic symptoms of paraplegia of Pott's disease are those of compreson, myelitis, partial motor palsy, increased patellar reflex, ankle clonus, complete motor palsy, contracture of muscles, atrophy of paraplegic muscles, and loss of sensation. The Babinsky reflex may be elicited from the beginning of the increased patellar reflex, as long as sensation remains. In one patient under my observation, where it was equally present on both sides, and irritation of the sole of the right foot would sometimes produce a reflex of the left extensor of the great toe, although this unusually indicates degenerative disturbances of the motor tract, yet this patient has since entirely recovered from the paraplegia.

The latter stages, which are met with in neglected cases, are complete anæsthesia, incontinence of urine and fæces, pressure bed sores, chronic cystitis, septicæmia, and death from asthenia.

The pathological condition present has been very thoroughly studied. In many cases pachymeningitis and myelitis are present in the cord at the seat of the caries. In others, pressure myelitis occurs from

* The Therapeutic Review, April, 1904.

abscesses or tubercular masses pressing upon the anterior surface of the cord. Very rarely, indeed, is the cord lesion due to direct pressure of bone, the bony canal is seldom narrowed by the deformity, the paralysis may occur before the deformity, and some patients, with extreme deformity, do not suffer from this complication, especially where abscesses occur and discharge upon the surface of the body. In the cervical region dislocation of the odontoid process of the axis may occur.

The average proportion of causes would be about 78 per cent. from compression, and 22 per cent. from such causes as meningo-myelitis, œdema, hæmorrhage, sclerosis or diffuse softening of the cord itself. The compression would be due in about 66 per cent., to caseous tubercular pachymeningitis, produced by contiguity, 10 per cent. due to dislocation of the axis, and only 2 per cent. to direct bony pressure from the deformity itself.

From the foregoing brief resume of the pathological findings in this affection it is evident that the condition requiring treatment is not always the same.

Prophylaxis.—The advent of palsy may often be prevented if the earlier symptoms of inefficient treatment, or the increase in the symptoms of the disease are reognized. The presence of pain, or "breath catch,' indicate the necessity for recumbency, and if the patient is put to bed at this time, palsy will often be prevented.

Recumbency.—The first symptoms of palsy, slight loss of power with exaggerated reflexes and ankle clonus, are an indication for recumbency. The patient should lie upon a firm mattress and the upper portion of the bed should be slightly elevated. Extension of the body should be made with a head extension apparatus, preferably of the Hilliard type, attached to a yoke and bearing a weight of from three to nine pounds, according to the age of the individual and the sensation of comfort given by the extension.

Instead of a firm mattress the patient may be placed upon a gas pipe frame, covered with canvas, so that he may be carried into the open air or placed upon a special wheel couch. The benefit of recumbency may be very much enhanced by making gradual extension of the spine backward by bending the frame upward at an angle. The patient rests upon the angular portion of the canvas and the extension backward is made by the upper and lower portions of the body. The direct extension of the deformity may be increased by the use of small felt pads, sand bags, or a small pillow of hair. When the disease is in the lower portion of the spine, extension from the legs is sometimes of advantage. If the patient rests upon a canvas covered frame it should contain a canvas portion, fitting the front part of the body, in order to secure the patient perfectly to the apparatus. In children an exact outline of the body may be made with

plaster of Paris, bandages applied to the back, with the patient in the supine position, and after this is hardened and trimmed, it may be used as a fixation apparatus.

Apparatus.—Since the occurence of paralysis is an indication of the inefficiency of the treatment, and in some cases of the fitting of the apparatus which has been worn, it is important that the apparatus should be suitable for the disease, and that it should be thoroughly fitted. The greatest difficulty with apparatus is that it usually permits of movement of the spine. A spinal apparatus for disease in the cervial region usually consists of two parts, a body portion and a head portion. The head portion should always be fixed so as not to permit of motion in the cervical region. Apparatus of this kind cannot be worn in bed with comfort, so that it is sometimes best to make an apparatus of felt enclosing the body, the neck, and the head. Too much attention cannot be given to the fixation of the neck in all cases where the disease is above the mid-dorsal region. If the disease is in the dorsal or lumbar region the apparatus should be carried as high up on the shoulders as possible, and the scapulae should be fixed by pressure pads. Apparatus for dorsal and lumbar disease may be worn in bed with extension, but in the lumbar region a plaster of Paris cast will sometimes prove quite as efficient as any other form of fixation apparatus.

Suspension.—When the disease has gone on to a loss of sensation, great benefit will be obtained by the use of suspension as applied by Charcot, Wood, and others. The patient may be suspended by the head and arms, daily, for from ten to twenty minutes. This is most useful in adults, but since the introduction of the gradual backward extension by means of the bent tray it has not been so much employed. When the palsy has reached the stage of loss of sensation the use of hot and cold applications to the spine, as practised by S. Weir Mitchell, will also be found of the greatest service. Large compresses wrung out of hot water are applied over the region of the deformity for from three to five minutes. The part should then be rubbed with ice for the same length of time, and each of these applications should be repeated once. The improvement in the circulation of the spine and the absorption of the œdema, are often very marked after the application of this form of treatment.

Massage of the spine and limbs is useful in the later stages of the disease, but is not of much benefit until after the sensation has returned. Electricity is also used in the later stages, and seems to hasten the recovery, but it is not of much benefit in the earlier stages.

The use of cod liver oil in the treatment of tuberculosis of the spine is quite as beneficial as in tuberculosis elsewhere. Its use should be

continued as long as the patient's digestion can bear it, or until the advent of warm weather, when it is best to substitute syrup of hypophosphites, calcium, potassium, sodium, manganese, etc. The iodide of iron, either in the syrup or in pill form, gelatine coated, will be found of benefit in conjunction with the use of cod liver oil.

The use of large doses of iodide of potassium is extremely satisfactory in the treatment of this palsy. The dose should be begun with from three to five grains three times a day, and gradually increased until from twenty to sixty grains are taken three times in twenty-four hours. At one time it was thought that iodide of potassium was not of much service where the disease was known to be of tubercular origin, but later experiences seem to prove that it is equally as useful where the tubercular diagnosis is established. The use of mercury and arsenic are sometimes of advantage, and the mercury may be given in the form of the bichloride in small doses combined with bromide of potassium When mercury is used it should be given on alternate weeks, or an interval may sometimes be allowed to elapse between the exhibition of the two drugs.

When the power has returned to the limbs the patient should not be placed upon his feet too early. The persistence of ankleclonus is an indication that the time has not yet arrived for the patient to assume the upright position. The first efforts at walking may be aided by the use of a suspension apparatus or trolley extension. The use of crutches is not to be recommended because of the motion in the scapulæ and back muscles.

The advantages of sunlight and fresh air are always to be employed where it is possible, and to this end the patient's bed should be so arranged as to get the benefit of these elements, or if he is placed upon a small canvas tray he can be carried into the open air, or taken out upon a specially constructed coach.

A change of climate in some instances is of signal benefit, and a residence at the seashore is often advantageous. But the advantages of the seashore are not so great in cases of Pott's disease, suffering from paralysis, as in those suffering from abscess. When there is an abscess pressing upon the cord the improvement in the general health, from the beneficial effects of the air, may be manifested by the disappearance of the paralysis from the absorption of the abscess and the shrinkage of the sac.

Forcible Correction.—When the paralysis has existed for some time and has not improved under the methods which have been suggested, there remain two methods of treatment which are beneficial in some instances, forcible extension, and laminectomy. If the paralysis has existed for a year without any improvement, forcible correction of the

deformity may be undertaken with an anæsthetic, with a probability of improvement. The amount of force which is used need not be so great as was employed in the method of Calot, where great damage to the structures has sometimes resulted. The amount of force will be determined by the yielding of the deformity, and two or more attempts may be made before resorting to laminectomy.

Laminectomy.—If all the measures suggested have failed, removal of a portion of the vertebra may be considered. If the pressure be due to a mass of tuberculous matter pressing upon the anterior portion of cord, laminectomy will not prove of much value unless this mass can be reached and removed. If the pressure be due to an intra-spinal abscess, great benefit may result from the opening of this abscess after the cavity has been exposed by the operation. The occurrence of contractures coming on early may be considered as an indication for this operation.

Where the pressure upon the cord is the result of an abscess pressing upon its interior surface, the symptoms will sometimes indicate its presence. The angular deformity will show itself before any signs of paralysis are manifest, and the paralysis after its institution, will exhibit fluctuations which may be due to the changes in the tension of the abscess sac, and it sometimes suddenly disappears from the bursting of the abscess and the relief from pressure. Where the paralysis is due to pressure from a cheesy growth, it sometimes occurs before the deformity is evident, and the fluctuations do not occur but the disease pursues an even course toward the final destruction of the nervous functions.

If the operation be postponed until the cord has become disorganized, it will be of doubtful benefit, and for this reason, if the loss of sensation has lasted for some time, and marked rigidity has occurred, the operation should be considered earlier. Following the operation the improvement is not always immediate, and recumbency with extension should be continued. Where abscesses have been found, in addition to laminectomy, portions of bone may sometimes be removed and drainage be instituted from the anterior portions of the vertebrae.

The recovery from paraplegia is usually complete, but recurrence may occur two or more times in the same individual. In order to prevent recurrence, treatment should be continued for years. To this end, an elastic spine brace should be worn until full growth is attained, in order to remove the superincumbent weight, to strengthen the spine, to arrest the formation of secondary curves, and to render the spine more efficient. After the full growth has been attained, the height should be taken once a year, as suggested by Biggs, on the same date, at the same time, and under the same conditions, and any variation more than 1-32 of an inch would be an indication to consider the resumption of a support.

CURRENT MEDICAL LITERATURE

MEDICINE.

Under the charge of A. J. MACKENZIE, B.A., M.B., Toronto.

THE DETECTION OF EARLY TUBERCLE IN THE LUNGS.

In the *B. M. J.*, April 2nd, Owen, of St. George's Hospital, delivered a clinical lecture on this subject which is full of valuable, practical points and lessons, drawn from the author's experience. A few of these we note as follows : It is incorrect to use the terminology " stages " in speaking of diseased lungs, the marked histology of almost every specimen is a mixed one and each case will show parts in a variety of ' stages.' The progress of pulmonary tuberculosis in almost all cases is an intermittent one, it begins with a small lesion and at first spreads slowly by the lymph channels. Nodules tend to coalesce into larger masses which break down at the centre, caseous matter is unorganizable and, in large masses, unabsorbable, remaining permanently infectious. The extension from these masses is concident with a lowered condition of health and followed by a fresh accession of symptoms, as the disease goes on this becomes more frequent and we get a change from the intermittent to a remittent form. The initial attack we rarely see, and it is not till haemoptysis or some other symptom intervenes, that the diagnosis is made. The exception to this history is the broncho-pneumonic case.

Consolidation is the name applied to the condition produced in this way, and physical examination is a search for signs of this condition ; the author's method is to follow inspection with stethoscopic examination, following this with percussion and palpation. The signs are tubular breathing, bronchophony and dulness. Tubular breathing indicates a consolidation of that part of lung tissue between the bronchi and the surface ; very superficial consolidation which does not reach so far as the bronchi will not transmit this sound while deep consolidation may give it faintly. Mere prolongation of expiration does not indicate consolidation nor does harsh breathing in which the harshness is heard only in part of expiration, The pitch in tuberculous consolidation is lower than in pneumonia or pleurisy.

Vocal resonance is normally heard since the healthy lung transmits this on account of its loudness though failing to carry the sounds caused by expiration, and deep consolidation may give as its signs increased

vocal resonance though no tubular breathing is heard. the value of vocal fremitus in the diagnosis of early lesions is nil.

The results of percussion frequently do not agree with those of auscultation—where there are marked ausculatory signs of consolidation but no dulness. There may be compensatory emphysema, where the reverse is the case there may be a thickened pleura. The differences between light and heavy percussion will frequently give the solution of the difficulty. Temporary changes are still more puzzling but may be due to the extent to which an emphysemotous patch is dilated with air.

The determination of the character of the consolidated areas will depend on other signs, chief among these being crepitations and rales. These do not always indicate breaking down, they are frequently found in the zone surrounding an active focus, and are caused by exudation due to the inflammation. "Clicks" at the end of inspiration are formally diagnostic of tuberculosis. These signs are not conveyed far from their place of origin, hence the differentiation between them and sounds originating in the bronchi. Rhonchi, due to tuberculosis, remain in the same, those due to asthma appear and disappear. In the adult a rhonchus which changes pitch during the sound or is accompanied by clicks or creaking sounds is very suggestive of tuberculosis.

THE COAGULATION TIME OF THE BLOOD IN PREGNANT AND PUERPURAL WOMEN SUFFERING FROM ALBUMINURIA AND ECLAMPSIA.

Report LXXXI of the Scientific Grants Committee of the British Medical Association is made on this subject by Douglas regarding certain investigations pursued at the Glasgow Maternity Hospital, and it is reported in the *B. M. J.*, March 26th.

The pathiological changes associated with these clinical conditions have been described as minute capillary thrombi, most frequently in the liver, but also in brain and kidneys, and ascribed to an increased coagulability of the blood, due to the presence of toxins originating in the placenta. The most noticeable changes in the blood of women during pregnancy are briefly as follows :—

(1) The volume of the blood is increased one to two per cent.
(2) The percentage of haemoglobin is maintained or increased.
(3) The number of erythrocytes may be slightly diminished.
(4) The leucocytes are increased.
(5) The density of the blood is slightly decreased.

(6) The coagulation time has hardly been worked out at all. The author's examinations showed in the puerperium that the time was lengthened at first, till it attained a maximum, and then gradually shortened again. No difference of importance is to be found in those cases in which albuminuria or eclampsia was present during the puerperium or during pregnancy, the average time, 7.3 minutes, differing very little from that in healthy women. For this reason Dr. Douglas thinks that there is nothing to support the contention that the thrombi found in certain organs in fatal cases of eclampsia are due to increased coagulability of the blood.

LEUCOCYTOSIS.

In the University of Pennsylvania, *Medical Bulletin*, March, Silverman gives a report of a number of experiments in the induction of toxic leucocytosis by the injection of putrid serum. The most practical of his deductions is that the decrease in the number of leucocytes in the beginning of leucocytosis is due to their obstruction and imprisonment caused by the narrowing in the lumen of the capillaries, owing to the irritation of the endothelium by foreign toxic substances.

CERVICAL RIBS.

In the University of Pennsylvania *Medical Bulletin* for March, Riesman reports a case in which a supernumerary rib was found on each side in articulation with the seventh cervical vertebra. The right was larger than the left, coming forward as far as the middle of the clavicle, with the subclavian artery passing over it. The left did not come so far forward, the jugular vein passed just in front of it and the transversalis colli artery below it. There was no spontaneous pain on either side nor difference in the pulse, but pressure over the right if compressing the artery caused severe pain radiating down the arm.

Anatomical history and literature seem to show that the condition is not a rare one, the cases reported are more frequently on the left side and in women. A study of the literature shows that : (1) Cervical ribs may exist without producing symptoms. (2) When present the symptoms are local and functional. (3) The local symptoms are a hard prominence above the clavicle and a visible pulsation high in the supraclavicular fossa.

(4) The functional symptom are circulatory and nervous.

(5) The principal circulatory symptoms are feebleness or an absence of the pulse, coldness of the extremity, at times cyanosis and oedema.

(6) The principal nervous symptoms are pain in the distribution of the brachial plexus, together with paraesthesias, such as numbness and formication, and awkwardness in the use of the hand, in some cases weakness and atrophy.

(7) In cases of brachial neuralgia the possibility of the presence of a cervical rib should be considered.

(8) The treatment except in the mildest cases is excision of the ribs. This was done in 22 out of 45 cases and in the majority with success.

DIETETICS OF GASTRIC DILATATION.

In the Journal of the *A. M. A.*, March 26th, Turck discusses this subject from the physiological point of view, and arrives at some conclusions that seem rather novel.

Atonic dilatation is due to lack of tone or "tonus" which is a condition of continuous contraction in unstriped muscle fibre. Movements of the stomach are due to peristalsis; opening or closing of orifices may result in chemical stimulation, but movements of the stomach in common with those of all hollow viscera are due to tension, and this tension comes from fulness. The relation of the nervous mechanism is not, as yet, definitely decided.

The mechanical work of the stomach may be divided into three stages: (1) Distension; (2) Expulsion; (3) Relaxation. Increased work causes hypertrophy up to a certain point, beyond that—fatigue, atony, dilatation, and this is the effect of prolonged intermittent tension. Increased quantity taken does not proportionately increase the duration of sojourn of food in the stomach. To overcome fatigue, rest is necessary, and more rest—longer periods of rest when fatigue has been followed by atony and dilatation.

On these facts Dr. Turck establishes his theory of dietetics—instead of frequent small meals—he advises, at most, two meals a day as large as appetite demands; of course, of a suitable character. In some cases there is complete anorexia, and in these it has been found, in many cases, that they are revived and improved by a method of forced feeding, described as follows:—

"One hundred grains of meat are first ground and placed in water for a few hours. The extractives are pressed out by a meat press and discarded; part of the albumin is lost, but this can be made up. Discarding the extractives lessens the irritation of a meat diet; 300 c.c. of milk are coagulated with rennet and shaken up to a liquid state and heated. Crackers are pulverized; one or two hard-boiled eggs are finely

grated; bran is added sufficiently for "ballast." This is placed in a wide-mouthed bottle and thoroughly shaken. A cork is tightly fitted with glass tubes, a rubber atomizer bulb is attached to one of the glass tubes, the other fits into the stomach tube, and the food is forced into the stomach by air pressure, which also keeps the glass tube from becoming plugged. Thus solid food can be given. Weak, jaded patients with complete anorexia and apparently no digestive energy, endeavoring to exist on the spoonful system of diet frequently exhibited, will by this method of forced feeding begin at once to show a desire for food. The exercise of the stomach brings about restoration of the digestive functions, and the patient soon begins to take his food independently with a relish."

Moreover, by this system of longer intervals, there is an opportunity allowed the stomach for autosterilization.

In addition to this lavage, faradic and galvanic treatment. help to increase tonic and peristaltic activity.

TESTS FOR ALBUMIN IN URINE.

In the *B. M. J.*, April 16th, there is an article by Murray of Aberdeen, calling attention to the great possibility of error in the ordinary heat-acid test for albumin in urine. It is found that the addition of either too much or too little acid vitiates the result, as the precipitate formed is at once re-dissolved.

In a series of tubes on boiling these results were obtained: (albumin .2 per cent.)

A	10 cc. m. of urine	+ 1	drop	HNO_3	No coagulation.
B	" "	+ 2	"	"	"
C	" "	+ 10	"	Coagulation.	
D	" "	+ 12	"	"	
E	" "	+ 30	"	No coagulation.	
F	" "	+ 40	"	"	"

Acid-albumin had been formed in A and B as could be proven by various tests. The albumin in the cases E and F were changed by the powerful acid to some different product as in the xantho-proteic re-action.

The explanation in the cases C and D is that acid-albumin is coagulable by heat in the presence of a considerable amount of nitric acid —a fact that is contradicted by most text-books.

To avoid this uncertainty of result one should use weak acetic acid (2-5 per cent.) or a 5 per cent. solution of acid sodium phospate added after boiling.

The author advises as a routine test a saturated aqueous solution of

salicyl-sulphonic acid, adding a few drops at a time in a very small test tube. If no precipitate occurs there is no proteid present, if there is a precipitate the tube is boiled to distinguish albumin, which does not disappear until it cools.

SURGERY.

Under the charge of H. A. BEATTY, M.D., M.R.C.S., Eng.
Chief Surgeon Canadian Pacific Railway, Ontario Division : Surgeon Toronto Western Hospital.

DIABETIC DIET.

In the Journal of the *American Medical Association* for March 26th Crofton gives a very valuable paper on this subject.

Starting with the familiar facts of normal nutrition, namely, that the normal adult requires 30 to 35 calories a day per kilo of body weight—or rather the amount of food required to produce this amount of same, of the classes whose value is as follows :—

1 gr. proteid furnishes - - - 4.1 calories.
8 gr. carbohydrate furnishes - - 4.1 calories.
1 gr. fat furnishes - - - - 9.3 calories.

We must deduct the amount lost in sugar in the diabetic. If the patient excretes 160 gr. sugar there is a loss of 656 calories, or a deficit in the ordinary food supply (150 gr. proteid, 190 gr. carbohydrates, 110 gr. fat, totalling in all 2417 cal.) of 339 cal. for a person of 60 kilo weight. These deficient calories must be supplied or the patient will waste, live on his albumin and fat, hence the emaciation we see in these cases and the palyphagia that is a frequent accompaniment.

If diabetics could use none of the sugar in their blood the problem would be a simple one. As a matter of fact, only the most severe cases are unable to use any, so we must determine the exact tolerance of the body in order to know how much carbohydrate. To determine the amount of sugar in the urine that is derived from the tissue we must equilibrate the nitrogen intake and output. From 150.9 proteid there is derived 24.09 N., if more than this is excreted in urine and fæces this represents tissue loss.

Normally the body disposes of sugar from two sources—from food and from muscle waste, by storing part as glycogen, burning part and transforming part. In a mild diabetic withdrawal of carbohydrate causes cessation of glycosuria, meaning an ability to dispose of the sugar from within, and perhaps of a certain amount more, as can be ascertained by finding the limit of tolerance. In severer cases the cessation of carbohydrate food does not cause the disappearance of glycosuria, showing that the case cannot dispose even of the sugar from the allowed source, and food albumin must also be reduced to such a point that less than

18 gr. but more than 10 gr. N. appear in the urine. One may speak of the severe form in which we must go further so that less than 10 gr. N. appear in the urine with or without cessation of glycosuria.

A popular method for determining the degree of glycosuria is the following: The patient is given what may be called the "diabetic test meal." This consists of a carbohydrate-free portion and a weighed portion of some carbohydrate food. The former may be compose l of meats (about 350 g.), eggs, cream, cheese, spinach, asparagus, salad with oil dressing, meat broths, tea, coffee, claret. The latter consists of 100 g. of white bread, preferably administered in two portions of 50 g. each, in the forenoon and afternoon. At times it may be necessary to administer other carbohydrate food instead of white bread, because it may be of practical importance to determine the tolerance of the organism for other starchy foods and for the different sugars.

If the patient on this diet (carbohydrate-free meal + 100 g. of white bread) excretes no sugar, then we are dealing with a very mild form of glycosuria; the amount of bread should then very gradually be increased on successive days until sugar finally appears in the urine. Thus, if the patient on one day excretes no sugar after eating 3×50g.=150 g. of bread, and on the next day passes sugar on 4×50=200 g. of bread, then the "boundary of assimilation" (see above) lies between 150 and 200 g. of white bread.

If the patient excretes sugar on the test diet, then we are dealing either with the mild or the medium form. If after withdrawal of the 100 g. of bread the glycosuria stops, then it is a mild form. If the sugar secretion still persists, then the secretion is medium or severe. The food albumin must now be reduced, If the glycosuria stops after the albumin is reduced to such a point that less than 18 g. of N. appear in the urine, then the case is one of medium severity. If the albumin must be reduced so much that less than 10 g. of N. appear in the urine, or if it does not stop after the withdrawal of all food, then we are dealing with a case of severe diabetic glycosuria.

The fundamental postulate is to maintain the patient's nutrition, and this is essentially synonymous with maintaining what is called "the nitrogen equilibrium;" *i.e.*, the N. output must never exceed the N. intake; in other words, the albumin content of the patient must be jealously maintained. The patient, therefore, must receive food that, after the deduction of the sugar wasted in the urine, allows him to utilize at least 35 calories per kilo of body weight *pro die*.

A reduction of carbo-hydrates is then necessary, but they must be given to a certain extent, for two reasons, viz.: (1) The impossibility of adequately nourishing most patients on a meat-fat diet alone; (2) the

increased danger of acidosis and coma incident to the withdrawal of all carbo-hydrate.

We cannot make up the loss with albuminous food alone, and a meat-fat diet would soon become disgusting, besides the danger of acidos is as a certain amount of carbo-hydrate is necessary to promote the oxidation of the members of the acetone group.

For the practical carrying out of the ideas so given requires that each case be studied with the accuracy of a metabolic experiment, and we hope that Dr. Crofton will, in the future, give us some practical clinical illustrations.

THE LOCAL TREATMENT OF GONORRHEIC INFECTIONS.

In a recent paper H. R. Loux, chief of the genito-urinary clinic, Jefferson Medical College, Philadelphia, declares that during the past year and a half the results in the treatment of gonorrhoea at his clinic and in his private practice have been much better than ever before. This improvement he ascribes to careful local treatment in which is abandoned absolutely the use of any drug as an injection which can cause the slightest irritation.

For acute gonorrhoea he prescribes a light diet with very little meat, no fats, fruit or alcoholic beverages; but allows as much skimmed milk as the patient can drink.

If the infection is confined to the anterior urethra, he prescribes the injection of two drachms of a ten per cent. solution of argyrol, held in the urethra ten minutes; this injection is made in the morning, at noon, and at night. Internally, he prescribes capsules of copaiba, cubebs, and sandalwood three times daily.

This treatment is practiced for one week, during which time the discharge will almost if not entirely cease, there will be no pain or irritation by the injection or upon urination, and the gonococci will disappear.

If, at the end of one week, the urine remains continuously shreddy, a weak solution of astringents is employed, and of these he prefers the sulphate and chloride of zinc, hydrastin, or berberine muriate. Loux emphasizes that these astringents should not be used during the first week of the disease, and never in solutions sufficiently strong to produce pain or irritation.

If the two-glass test shows cloudy first and second portions of urine, indicating the presence of an anterior and posterior urethritis, he irrigates the anterior urethra with a warm solution of boracic acid in order to remove the accumulated secretions, and then makes deep

instillations of a twenty per cent. argyrol solution once daily or on alternate days.

Loux quotes from statistics of four hundred cases treated in the above way, and claims for this method the following advantages: (1) simplicity, (2) the relief afforded the patient from pain and irritation, (3) the extreme rarity of complications, (4) shortened duration of the disease, in that the average time required for a cure in acute cases was twenty-one days, whereas by the method formerly practised at his clinic and in private work the best average obtainable was forty-two days.

For gonnorhoea in the female, manifested by vaginitis and urethritis, he dilates the vagina to full extent by means of the speculum, and to every portion of the vaginal mucous membrane applies a fifty per cent. argyrol solution, and the same to the urethra by means of a cotton-tipped probe. If there be also endomitritis present, he frees the interior of the uterus of accumulated secretions by means of the cotton-tipped applicator, and then applies the fifty-per cent. argyrol solution to the cervix and body of the uterus.

This local treatment is carried out every day and the gonococci rapidly disappear.

For home treatment, the patient is ordered vaginal douches of from two to four quarts of hot boracic acid or normal salt solution taken in the recumbent posture.

For chronic urethritis, Loux urges a careful endoscopic examination. The urethra should be gradually dilated by means of bougies, and the individual enlarged follicles or ulcerated patches revealed by the endoscope should be treated by the local application of a twenty five or a fifty per cent. argyrol solution.

Loux summarizes his conclusions in regard to the treatment of gonorrhoea as follows: (1) Acute anterior urethritis should not be treated by means of irrigation because of the danger of spreading the disease to the posterior urethra. (2) Irritating injections of any kind should never be used in acute gonorrhoea because of the certainty of the recurrence of a mixed infection and the extension of the disease, by contiguity, to the urethral follicles. (3) Argyrol, as a non-irritating gonococcide, with a specific effect in allaying the symptoms of inflammation, is the drug of choice for injection, and may be used in any strength and at any stage of the disease. (4) Astringents, such as zinc, hydrastin, bismuth and lead, should never be used in the acute stage of gonorrhoea, but should be reserved for the post-gonococcus period when the urine remains shreddy. (5) These astringents should not be used in sufficient strength to cause the patient to experience pain or irritation.

In the treatment of chronic gonorrhoea, he concludes: (1) Endoscopic diagnosis and treatment is indispensable as a routine measure. (2) Silver nitrate or other caustic or irritating applications or instillations should be seldom used, and then only in the most skilled hands and with the greatest care.

OBSTRUCTION AND CONSEQUENT DISTENTION THE CAUSE OF APPENDICITIS.

In the *Journal of the American Medical Association*, March 26th, C. Van Zwalenburg writes under the above title. The consensus of medical opinion, as obtained from the voluminous literature on the subject, is that appendicitis is due to:—

1. A local initiation caused by a foreign body, as a fæcal concretion; a catarrhal congestion of the appendix, due to the conditions which produce similar changes in the neighboring bowels; stercostasis in the appendix, traumatism, etc.

2. The inoculation on this abraded mucosa of pathologic flora, as the staphylococcus, streptococcus, pneumococcus, or colon bacillus. The consequences of this infection are the many pathologic conditions which are present in an acute inflammatory process.

That this is not an entirely satisfactory explanation is shown by the variety of other explanations offered—the author finding no less than thirty-nine different explanations in his search of the literature.

As the result of a series of interesting experiments on dogs, Van Zwalenburg presents the following conclusions:—

1. Simple affection does not account for the suddenness of the attack, nor the early severity of the pathologic changes in acute appendicitis.

2. The evident interference with the blood supply is best accounted for by an increased intra-appendicular pressure.

3. Simply injecting bacteria into the appendix will not produce appendicitis, unless used in abnormal amounts and virulence.

4. Subperitoneal ligation of the appendix with a simple ligature, without distention, can not be made sufficiently permanent to produce a general affection of the appendix, typical of appendicitis in the human being.

5. Experiments in dogs show that hydraulic pressure, equal to the arterial tension maintained within the lumen of the appendix for a short time, is promptly followed by typical appendicitis.

6. The blood supply in an extremity may be cut off with impunity for hours; but in the appendix the ever-present bacteria at once begin an infection, their entrance into the tissues being facilitated by the open-

ing of normal and traumatic avenues by the very distention which cuts off the circulation.

7. The importance of making a complete diagnosis and prognosis during the first twelve hours of the attack is emphasized.

8. This study suggests the possibility of infections or other lesions being produced in other hollow viscera, especially in the gall bladder, the stomach and intestines by temporary overdistention.

COMPLICATIONS AND SEQUELS OF PROSTATECTOMY.

Dr. James E. Moore, of Minneapolis, in the March number of the *Annals of Surgery*, opens his paper by stating that opinion has not yet settled all the points in connection with this operation. The mortality by some is considered as almost nil, while others contend that it is considerable; then again some hold that a cure is the rule, while some think that many unpleasant sequels may follow the operation. But, by experience, the mortality is growing less and the results better.

With regard to operating upon persons who are up in years, the writer contends that the important things to consider are the heart, the arteries, and the kidneys. These determine a person's age rather than his years.

Uræmia is the most frequent cause of death. This may be guarded against to a considerable extent by administering water and urotropine for some days before and after the operation. Sepsis is the next danger. If it occurs it is very fatal in elderly persons. The infected bladder is the usual cause for sepsis. Thorough cleansing of the wound and free drainage are the means of preventing and treating sepsis.

The incisions, either for the upper or perineal operation should not be made too large, as a needless amount of damage is done to the parts. Hæmorrhage does not generally cause much trouble. Much care should be taken to do as little injury to the prostatic portion of the urethra as possible. A portion of the lower wall must be destroyed, but the sides and upper wall should be preserved. If too much of the urethra is injured severe stricture is sure to come on later.

The main objection to the suprapubic route is the extensive injury done to the bladder. In the perineal operation there need not be much traumatism to the bladder. If the bladder is torn it should be closed with catgut. The greatest care should be taken not to injure the rectum. Unless care is taken it may be torn through, or so bruised as to cause it to slough. The operator should follow the urethra back to the apex of the gland and then keep well within the capsule. When the bowel is opened it should be closed on the rectal side and some stitches of catgut on the side of the operation.

An effort should be made to preserve the seminal ducts. This is very important to a virile man. Care should also be taken not to injure the neck of the bladder as troublesome incontinence may result. The perineal wound is usually closed in about three weeks. A fistula between the bladder and rectum may result from the operation. Very troublesome epididymitis has been met with. Notwithstanding these risks the operation is a boon to humanity.

GYNAECOLOGY

Under the charge of S. M. HAY, M.D., C.M., Gynaecologist, Toronto Western Hospital; Consulting Surgeon Toronto Orthopedic Hospital.

CANCER OF THE UTERUS AND THE PHYSICIAN'S DUTY.

Dr. M. C. McCannon writes on the above subject in the April number of the *Southern Practitioner.*

There is much truth in Park's well-known and often quoted statement: "If the same death rate is maintained for the next ten years, the State of New York will have more deaths from cancer than from tuberculosis, smallpox and typhoid fever combined." This increase is almost the same in all the large centers of other foreign countries from which reliable data is obtainable.

That the disease is a local one, and curable at some time in its course can hardly be doubted. Reamy, of Cincinnati, has reported cases of undoubted cancer of the uterus, treated by hysterectomy, that have remained well after periods of from ten to twenty-five years.

The disease is much more prone to affect women who have borne children. Emmet contends that this is due to injuries to the cervix, and he advises the repair of all such injuries before the climateric. Bassi reports observations on 1,000 repaired lacerations of the cervix with subsequent freedom from cancer, and 1,000 cases of injuries to the uterus that were permitted to go unrepaired, in which 21 cases of cancer were subsequently observed.

Cancer appears usually at a time of life when the waste is greater than the repair.

Injury of itself has never been proven to be the actual cause of cancer.

Wiener in speaking of the early diagnosis of uterine cancer, says: "Every error in diagnosis costs a human life; every delay endangers one." If this be true, our duty as physicians is so illumined that it should shine out clear and bright under the most befogged conditions A human life sacrificed! For all the wealth of India what conscientious physician would stand under the burden? A human life endangered! What lover of humanity would permit it? And yet sufferers from

uterine cancer are permitted to go unexamined until the odor from the breaking down tissues takes voice and cries to the highest heavens, a warning against the deadly enemy that is sapping the vitality of God's chiefest handiwork.

An early diagnois is difficult but not impossible.

That an early recognition of this fatal malady may be made, it is necessary that the patient be seen when the first symptoms manifest themselves; unfortunately, the general public is not yet educated to the recognition of the nature and character of these early symptoms, or to the importance of seeking relief in the first stages of malignant disease. Here is the first duty of the physician, in our efforts to lessen the prevalence of cancer of the uterus. Medical students and medical practitioners should have it impressed upon them that women should be made to understand :—

1. That cancer is prone to occur between the ages of 35 and 55.

2. That it is a local growth at first, and curable in its early stages.

3. Irregular and unusual uterine bleeding at any time in life, but more especially between the ages of 35 and 55, is a symptom requiring investigation.

4. That a return of the flow, after the establishment of the menopause, is one of the gravest of symptoms.

5. That leucorrhoea is a sympton of a diseased condition requiring investigation.

6. That change of life means cessation of menstruation, and that increased flow at a time when menstruation is expected to stop is a danger signal.

7. That pain is a symptom that appears late and should not be expected or looked for as a sign of cancer in the early stages.

An early diagnosis of uterine cancer is the second duty of the physician to those affected by this disease.

The appearance of a bloody vaginal discharge from a woman past the climateric, and whose menstruation has not appeared for a year or more, is in the majority of cases indicative of malignant disease. Of course the flow may be due to many other conditions besides cancer.

Leucorrhoea is a symptom of cancer to which, in my opinion, due weight is not given.

An early diagnosis having been made, our third duty is to subject the patient to an immediate and complete removal of the tissues involved by this growth. There should be no uncertain sound in the physician's warning voice. The facts should be boldly and emphatically set forth. Even though the information imparted seems almost brutal

in its bluntness, valuable time must not be wasted, a valuable life must not be carelessly sacrificed; but if a life is to be lost let it be by a moral suicide, never by a moral murder.

STERILITY.

Professor Herman, of the London Hospital, in writing on the above subject says that sterility may be either absolute or relative. Absolute sterility is that in which there is no child, no miscarriage, no abortion, however early. Relative sterility is that in which a woman produces children in number not according to her condition, age and length of married life.

About 10 per cent. of married women are absolutely sterile. The causes of sterility are:—

1. Cases in which the woman is not at fault, male sterility, incompatibility.

2. The great and irremediable cause, age.

3. Defective development of the ovaries, hitherto incurable.

The first two of these offer no excuse for treating the woman; the last has given occasion for much bad treatment.

Cases that legitimately call for treatment are:—

4. The causes of sterility curable by the surgeon, dysmenorrhoea and dyspareunia.

5. The causes curable by the patient, unhealthy modes of life.

6. Diseases calling for treatment on their own account, by which sterility may possibly be caused.

In some cases of sterility there is no fault, either on the male or female side. Husband and wife may each be capable of procreation, but there is an incompatibility between them which prevents them from procreating with one another. Cases occur in which a man has begotten children by one wife, marries again, and his second wife is sterile. Then he dies, his widow remarries, and is fertile by her second husband. This incompatibility is a cause of sterility which we can neither explain nor cure.

The cause of sterility in marriage is oftener in the female than in male. Gross estimates that the male is in fault in about one case in six.

Carefully prepared tables show that fecundity is greatest in women married between the ages of twenty and twenty-four. Of women married before this age, the earlier they are married the greater the prospect of sterility. Of those married after this age, the later they marry the more likely are they to be sterile.

DYSMENORRHŒA AND STERILITY FROM CERVICAL STENOSIS TREATED BY INCISION.

Bedford Fenwick, M.D., Physician to the Hospital for Women, Soho Square, London, has an article on the above subject in the February issue of the *British Gynæcological Journal.* He remarks these conditions are the two most common complaints for which women seek medical advice. When they exist separately, they may be due to many causes; but when they occur together they are most frequently due to congenital or traumatic constriction of the canal of the cervix uteri. There is a mechanical obstacle to the egress of blood and the ingress of seminal fluid.

After labour a woman may suffer pain at the menstrual period, and become sterile. An examination reveals that there has been laceration, and a quantity of hard cicatricial tissue is present. The congenital narrowing of the canal is much more common, especially the conical cervix. The canal tapers downward and the external os is reduced to "pinhole os." The menstrual blood may be retained long enough to clot, giving rise to very severe pain.

Some fifty years ago, these cases were treated by passing a bistoury into the canal and incising the internal os. The benefit was only temporary. There was at times extreme hemorrhage. At a later period it became customary to dilate the cervix by means of tents, usually the laminaria. This method of treatment was very painful, was sometimes accompanied by dangerous or fatal sepsis, and generally the canal contracted again. Metal dilators came into vogue. Various sizes were passed through the cervical canal and left in for a few minutes, but contraction soon followed.

A plan of operating was then brought into use whereby an incision was made on each side of the cervix, under antiseptic precautions. Efforts were made to keep the wounds open by plugs and caustics; but granulations formed and the walls of the wounds grew together, destroying the effects of the operation, and sometimes increasing the trouble.

Dr. Fenwick describes his own operation as follows: The parts are made aseptic. The patient is placed in the lithotomy position, and a weighted speculum inserted. The cervical walls are split by means of scissors high enough to relieve the constriction. A catgut suture is passed through the anterior lips close up to the angles of the incision, and another midway between this and the end of the cervix. These sutures are tied. This inverts the cut surfaces on the anterior wall of the cervix towards the centre of the canal, and prevents them coming in

contact with the cut surfaces on the posterior wall. The parts are packed to arrest bleeding. The cut surfaces on the posterior wall soon glaze and form a mucous membrane. The sutures are removed in ten days from the anterior wall. By this means the os and lower half of the canal are kept permanently open.

X-RAY THERAPY AND SKIAGRAPHY.

Under the charge of JOHN McMASTER, B.A., M.D., C.M., Toronto.

THE VALUE OF X-RAYS IN CHILDREN'S COLIC.

Henry Fenwick in the *Medical Annual* for 1903 says that every child having repeated attacks of stomach-ache should be x-rayed. Many of these attacks of apparently intestinal colic in children are attacks of nephritic colic. Every child who has passed blood in the urine painlessly should have both kidney areas skiographed, as he is convinced that painless hæmaturia in children is often the result of an early stage of oxalate of limestone in the kidney and this is demonstrable by means of x-rays.

RADIO-ACTIVE METALS IN TEXAS.

It is reported that in certain parts of Texas many of the most valuable of the radio-active minerals are to be found. A short distance from Kingsland the Nernst Lamp Company is mining rare earths for the radium salts and other rare new metals. This company is endeavoring to secure the title to more lands in the neighborhood. Scientists who have examined the lands and conducted tests and examinations of the minerals found, claim that these earths possess a greater amount of radio-active properties than those of any other known region in the world.

RADIOGRAPHS IN MEDICO-LEGAL CASES.

In the majority of medico-legal cases, in almost all the states of the union, radiographs are an important part of the exhibits. Judges are encouraging their use, and in many cases demanding them. The evidence that they furnish is definite and incontravertable. They must, however, be made by specialists who understand how to interpret them. Misinterpretation of a plate is a common incident with the unskilled. The decision rendered by a local judge in one of our courts is quite at variance with the practice in courts of the United States. The ruling was to the effect, that if a plaintiff had apprehension as to the effects upon himself of an x-ray examination he need not submit to it. A properly

conducted examination with efficient x-ray apparatus can prodnce no injurious effects upon any one even if they are extremely sensitive to the action of the rays.

Courts of justice ought to endeavor to establish the truth. In most of the claims for damages or injury to one's person objective evidence of injury is absent or limited in amount. Subjective evidence is very easily manufactured. Conditions can be revealed and obscurities removed and much light shed upon many cases by the radiograph properly made and interpreted.

OPHTHALMOLOGY AND OTOLOGY.

Under the charge of G. STIRLING RYERSON, M.D., C.M., Professor of Ophthalmology and Otology, Medical Faculty, University of Toronto.

THE UNNECESSARY WEARING OF GLASSES.

For a great many years much has been said and written about the benefits of glasses in various conditions referable to the eye and its neighboring parts, and much relief from headache and eye pains has followed education in this direction. There are thousands of martyrs to the sufferings caused by uncorrected errors of refraction and of the ocular muscles; but it is also true that many unnecessary pairs of glasses are worn because they have been prescribed for the relief of symptoms, which they could not possibly remove.

It would be absurd to underestimate the value of glasses, not only in the improvement of vision, but also in the relief of pain and discomfort referred to the eyes and head, and often in the indirect benefit to the general health. But enthusiasm in prescribing glasses ought not to allow us to overlook or ignore the existence of local conditions of the lids which are often responsible for various symptoms conveniently included in the term asthenopia. There are many instances in which discomfort after close work is not due to eye-strain but to conjunctivitis; the latter may appear insignificant and yet may be sufficient to cause the symptoms on account of which, not infrequently, glasses are unnecessarily worn, as will be proven by the relief following local treatment of the conjunctival affection.

Glasses can never be regarded as ornaments; they are always more or less of a handicap to the personal appearance; they should not be inflicted upon patients unless they improve vison or correct an ametropia which is responsible for annoying symptoms.

The greatest number of instances of the misuse of glasses is furnished by the so-called prescribing optician, who is naturally merely interested

in the quantity of glasses which he can sell. But even in legitimate prescribing it is well to remember, that although a small amount of ametropia often causes disturbances which are promptly corrected by the wearing of glasses, abnormal conditions of the conjunctiva, even though they are unaccompanied by marked changes, may be responsible for symptoms incorrectly attributed to eye-strain, and that in such cases the relief from discomfort by local treatment of the lids will be particularly appreciated by the patient because it will save him from the unnecessary wearing of glasses.—*The Daily Medical*, New York Feb. 13.

OCULAR SYPHILIS IN GENERAL AND ITS TREATMENT.

Galezowski in *Le Progres Medical*, Jan. 1904., says ocular syphilis is common, it affects all ages from infancy to old age. He cites interstitial keratitis, iritis, choroiditis etc. and adds, "Much more active than other forms of medication mercurial frictions cure the most serious forms of ocular syphilis and in particular chorio-retinis. It is necessary sometimes for the treatment to be continued for a considerable length of time to cause the complete removal of the specific poison."

Galezowski holds that friction treatment is much superior to intramuscular or subcutaneous injections of sublimate, biniodide or other salts of mercury, a form of treatment which is having much vogue at the present time. Friction is an old treatment but the author claims that the method of using it is new. He avoids large doses and never exceeds two grammes and often uses one gramme or less. He advises lanolin as a base because it is readily absorbed. Before using frictions he washes the part thoroughly with soap and warm water and rubs in the mercurial ointment until the skin is almost dry. The part is then wrapped in flannel and next day washes off the unabsorbed portion. He follows the "cycle :" first day, temple, neck, forehead ; second day, right axilla ; third day, right forearm ; fourth day, right flank ; fifth day, inside of right thigh ; sixth day, right popliteal space ; seventh day, inside of right leg ; eighth day, sole of right foot and the same routine on the left side, or for 16 days in all. For choroiditis one must pursue a continuous treatment for two years—ten days of frictions and five days of rest. At the end of 40 frictions the interval is increased to ten days and then to fifteen days. Galezowski says "the elimination of the mercury is done rapidly and one must not cease to introduce it to obtain good results. Conseq uently I do not use iodide of potassium because, in my opinion it assists in the elimination of the mercury introduced into the organism and interferes with its salutary effects." He draws special

attention to the necessity of hygiene of the mouth while under mercurial treatment by inunction, using gargles of chlorate of potassium. In women the inunctions should be interrupted during the menstrual periods. By alternating the periods of treatment and rest patients will submit without making objection to prolonged treatment with excellent results.

REPORT ON THE EXAMINATION OF THE CLEVELAND SCHOOL FOR THE DEAF.

Dr. Albert Rufus Baker publishes an interesting report in the *Cleveland Medical Journal* for April,in which he says that the Roman's denied the deaf-mutes civil rights and the Spartans put them to death. Aristotle claimed that they had no mental faculties and St. Augustine condemned them to eternal damnation. The first recorded case in which a deaf mute was taught to speak, was in the eighth century when St. John taught a youth to speak. Jerome Cardan, in the sixteenth century first established the physiologic basis of the relation of speech and hearing. In the following century numerous schools were established in Europe where the pupils were taught to speak and read the lips. Henry Baker, son-in-law of Defoe, 1698-1775, kept a private school in London where the dumb were taught to speak. The method was secret but he left four volumes of lessons in which his method was made known. Heinicke established a school of oral teaching in Leipsic in 1877. The method was kept secret. About the same time De L'Epee founded a school in France.

In the early part of last century a young theologian, Thomas Gallaudet went to England to study deaf-mutism. He first consulted Dr. Watson, who had a school of instruction, but was coldly received Gallaudet was disgusted and went to France where he was well received and was taught the sign and manual method of teaching. He returned to America, bringing an educated deaf-mute named Clerc with him and they founded deaf and dumb schools in the United States in which the sign method was exclusively taught. Hence it came that this method was taught on this side of the Atlantic to the exclusion of the oral method. The oral method was learnt from the Germans and was introduced into some of the chools. The oral method has made great progress since it was introduced in 1867. In 1901 64 per cent. of the pupils of the schools were taught by this method.

Dr. Baker found that of 43 pupils he examined in the Cleveland school, 28 were congenitally deaf, while 15 had acquired deafness. Dr. Hobby, who has examined 500 deaf-mutes, found less than 15 per cent. congenitally deaf. On the other hand, English authors claim 75 per cent.

and German 50 per cent. Heredity forms a considerable element in causation but not so large as is generally supposed, because deaf-mutes are not very prolific and because acquired deafness is not hereditary. Where sign method alone is used there is a disposition for deaf-mutes to intermarry because they are cut off from speaking people.

Dr. Baker reports the curious case of Alfred Cowles. He says " it was not until Mr. Cowles was 25 years of age that he became perfectly cognisant of his defect. Up to that time he treated all that he read about the songs of birds as nothing more than poetic fiction. To him the songs of birds were perfectly mute ; and he was perfectly deaf to the shrillest and highest notes of the piano, fife or other musical instruments. At length, after considerable pain, he was convinced that he laboured under some physical defect of hearing. When put to test in a room in which a large number of canaries were singing very loudly, he declared he did not hear the slightest sound whatever, even when placed close to their cages. Curiously enough, in all other respects his hearing was not perfect, but somewhat acute." A feature of Baker's cases is the large proportion of nasal troubles, 50 per cent. of cases of adenoid disease, 10 enlarged tonsils, 4 deflected septums. He found normal drum membranes 52, and pathologic 34. He argues strongly in favor of teaching the deaf-mute to speak in preference to the sign method which cuts them off from the rest of the world.

THE EAR IN RELATION TO LIFE INSURANCE.

Macleod Yearsley, F.R.C.S., contributes an article on this subject to the *Medical Times and Gazette*, April 16th, 1904, in which he says, that most United States companies decline applicants for insurance suffering from chronic middle ear suppuration, whereas many English companies accept them. He lays down rules for rejection of applicants: External ear.—Malignant disease and lupus should cause rejection. Lupus may be successfully treated, and if after two years there has been no return, they might be accepted. All suspicious nodules, tumors or ulcerated areas in elderly persons should be regarded with great caution. Middle ear.—Candidates who had a single attack of acute middle ear suppuration which has healed should not be rejected. Chronic middle ear suppurations call for very careful consideration. The general principle underlying such cases is that the applicant is suffering from a curable disease, which if untreated, is dangerous to life. All cases of chronic suppuration do not require rejection. A person who has had this affection, but in whom the perforation has healed, and there has been no recurrence of the discharge for five years may be accepted at ordinary rates. If the perforation is open, without dis-

charge, it may be accepted with an addition to the premium. Still, such cases after lying dormant for years may take on action. As regards cases in which discharge is still present, such cases should be rejected without exception. It matters not whether the perforation is large or small, the discharge profuse or scanty, the intervals long or short. After treatment, he could be accepted with an additional premium. Cases which have developed intracranial complication should be at once rejected. As regards deafness without discharge, its direct influence on the expectation of life is small, but such lives cannot be regarded as first-class. A deaf man, undoubtedly, runs greater risk of accident. Severe vertigo or Meniere's symptoms, ought either to be rejected or additional premium added. Vertigo is exceedingly apt to predispose to accident. Yearsley has met with several cases in which the deafness led to accident. In one old gentleman, the combined effect of deafness, rubber cab tires and a windy night led to a fatal catastrophe. He is quite opposed to insuring a very deaf person at ordinary rates.

LARYNGOLOGY AND RHINOLOGY.

Under the charge of PERRY G. GOLDSMITH, M.D., Belleville. Fellow of the British Laryngological, Rhinological and Otological Society.

AN UNUSUAL CAUSE OF LARYNGEAL OBSTRUCTION.

The *Australasian Medical Gazette*, March, 1904, has a very interesting case cited by Dr. F. T. Sawkins. He was called to see a child 20 months old in a condition of advanced dyspnœa from laryngeal obstruction. The fauces were congested and tonsils very large. Suspecting membranous croup the patient was sent to a diphtheritic hospital. No diphtheria bacilli could be found but under steam inhalations the patient was considerably relieved. A few days later Sawkins was again sent for and found the child much the same as when first seen. He opened the trachea and later removed the tonsils and accompanying adenoids.

The child wore a tracheotomy tube for two months, any attempt to dispense with it causing alarming attacks of dyspnœa. Under anaesthesia the larynx was repeatedly examined but nothing noted. On withdrawing the mirror at his last examination Sawkins noticed, at the moment of a deep inspiratory effort, a rounded body slipping in the interval between the epiglottis and larynx. Further observation showed this was repeated at each inspiration, and on lateralizing the mirror the body was seen to be the lip of the uvula It formed a complete plug and fully accounted for the inspiratory obstruction. The mirror had on previous occasions lifted the uvula so that nothing was seen, and the

phenomenon could not occur. The uvula was removed and within 48 hours the tracheal tube was left out nor was it ever afterwards necessary to re-insert it, the breathing subsequently being quite natural.

IMMOBILITY OF THE RIGHT VOCAL CORD.

Dr. Furniss Potter, at a recent meeting of the London Laryngological Society, *Jour. Laryngology* report, presented a case for examination. The patient was a youth, nineteen years old, with an immovable right vocal cord. He came complaining of giddiness and stuffiness of the nose, with a slight huskiness. The tonsils were enlarged, mucous membrane of the nose and naso-pharynx swollen and hyperaemic. Slight superficial ulceration was noticed on the tonsils while, on laryngospic examination, the right vocal cord was found to be fixed in the middle line. The patient had a cough and thought he had recently lost flesh. On examination of the chest no definite sign of disease was discovered, sputum examined but no bacilli found. Dr. Potter was of the opinion that the immobility of the cord was due to infiltration, most probably tuberculous, involving the crico-arytenoid articulation.

ŒDEMA OF THE GLOTTIS.

In an interesting paper in the *New York Medical Journal*, July, 1903, Doctors Gettings and Joson take up the question of oedema of the glottis. A case following a mild attack of scarlet fever is cited. Two classes of this affection are given: (1) Simple oedema of the larynx occurring in cachectic diseases, especially of the heart and kidneys, in which there may appear no apparent exciting cause and where the inflammatory symptoms are absent; (2) The inflammatory type, due to extension by contiguity or as a local complication of an acute infectious disease. Other causes are also given. Prognosis is unfavorable in the cachectic forms, and also in the severe types of infectious diseases. Intubation rarely affords relief unless the obstruction is infra-glottic Continuous inhalation of medicated steam is always to be employed. Scarification and external deflection by leeches may be tried; cold and heat should be used externally and internally. Tracheotomy is demanded in extreme cases.

INTUBATION OR TRACHEOTOMY IN DIPHTHERITIC CROUP.

Dr. Spolverini observed 498 cases of diphtheria in the San Spirito Hospital of Rome, and found that there was a great difference between the mortality of children after tracheotomy and those after intubation. While the former showed a mortality of 70 per cent. the latter showed a death rate barely reaching 30 per cent. He is, therefore, an enthusiastic

advocate of intubation against tracheotomy—an individual attitude which is still noteworthy in Italy in spite of the results achieved in America and elsewhere. Tracheotomy, according to Spolverini, is indicated only in special cases. He prefers the intubation forceps with Valagussa's curve, and describes a form of this instrument which he has devised, and which has the advantage of serving both as intubator and extubator. He advises the use of ebonite tubes which are corrugated, and are of olivary shape. Intubation may be performed at any age, and the author reports intubations in five nursing infants. The rule about intubation should be that the child must be extubated as early as possible, the average being from thirty-six to forty-eight hours.—*Archives of Pediatrics.*

Ed. Note.—On this side of the Atlantic the time for removing the tube varies greatly. A tube may be coughed out within twenty-four hours, and the breathing being so quiet and easy the physician may not wish to re-insert it, but he must be near at hand if it should be necessary, or he may have to re-insert it a number of times before his patient is free from danger. It may happen that after removal of the tube even as late as four or five days a sudden oedema of the glottis comes on which necessitates a rapid intubation. It has not been shown that leaving the tube in the larynx longer than actually necessary has done any harm. The sooner large doses of antitoxine are used in cases of diphtheria the less danger will there be that any intubation procedures will be necessary.

THE RELATION OF DISEASE OF THE UPPER AIR PASSAGES TO DISEASE OF THE STOMACH.

Dr. Lewis A. Coffin, April *Laryngoscope*, combats the view so universally held that many cases of chronic gastric catarrh are caused by or at least kept up by post nasal suppuration. He cites a number of cases which support the view that the naso-pharyngeal trouble is due to the abnormal condition of the stomach. His reasons for thinking this view probable are as follows: (1) The belching of gas and eructation of chyme into the pharynx and naso-pharynx are an almost constant symptom of stomach disorders, and probably may take place from a healthy stomach; (2) Normal chyme is of such a nature that it would act in the pharynx and naso-pharynx both as a mechanical and chemical irritant, and it may often be thrown into these regions from an atonic stomach. Correction of the stomach trouble relieves the throat symptoms; (3) The peculiarily circumscribed areas diseased in those cases suffering from post-nasal catarrh, viz., oro-and naso-pharynges, posterior ends of the turbinated bodies and eustachian tubes, point to the same conclusion.

PROVINCE OF QUEBEC NEWS

Conducted by MALCOLM MacKAY, B.A., M.D., Montreal.

The Taschereau bill, brought before the Quebec Legislature in the beginning of May, has raised a storm of protest from the medical profession of the Province. That doctors can be made by law and granted licenses to practice, by the hundred, when positively disqualified by a board of physicians organized to protect the community from having incompetent practitioners forced upon them, is scandalous. Nevertheless, year after year, attempts are made, too often successfully, to pass unqualified men by means of a private bill in the Legislature. In 1896, Lt.-Col. Pinault introduced a bill to allow a number of men, who had commenced their medical studies without taking the matriculation examination, to enter the profession. It was understood that this was to dispose of the matter for ever, but at the very same session several private bills were passed allowing others to enter. At the session of 1900, Mr. Roy introduced another bill to regularize the position of students who, up to that time, had failed to make good their position. He stated that the Pinault bill was not strong enough, and several students had been deceived into thinking that they could be admitted to practice without taking the examination for admission to study. The bill was allowed by the College of Physicians and Surgeons, provided it was final. At the same session, however, two private bills were again passed to admit others to practice. Finally, in 1903, a protest was again made, and this time a safeguard was placed in the general law. It was decreed that the King's Printer must not accept a notice of a private bill for publication, nor the Clerk of the House accept notice of a private bill for admission to a profession, unless the controlling body of the profession endorsed the application. Now comes Mr. Taschereau with his bill, which provides that all students enrolled before September, 1903, in any university of the Province shall be admitted to practice and be licensed by the College of Physicians and Surgeons. This will let in some two hundred and fifty men who have not thought it worth while to conform to the requirements, or who are unable to meet such tests as have been established. It would be as well for the Legislature to decree, that any man who disregards the rules of the College and fails to pass their examinations should receive a premium, and that such premium is to be levied from those who are soft enough to fulfil all the conditions.

In explaining his bill, Mr. Taschereau said that there were many medical students, both at McGill and Laval, who had been led by prominent members of the profession to believe that if they continued with their medical studies the Legislature would regularize their original failure to qualify as students, provided they passed their finals in medicine satisfactorily. He contended that after the years of study given by students, it would be manifestly unfair to refuse them the right of admission to the profession, and to rigorously apply to them the decision arrived at the last session by the Legislature to pass no more bills for facilitating the entrance of students into the learned professions against the wishes of the professional boards themselves. Now, in regard to McGill there is little or no truth in this statement, for one-fourth of those who are now following the medical course have placed themselves above the provincial regulations by previously taking a B.A. degree. Of the remainder some have qualified for the Quebec practice before attending lectures in the faculty of medicine, or intend to exercise their profession in other provinces. It is true that a number of McGill men have taken advantage of the Roy-Pinault Act and went before the board with little hope of passing it, but taking the chance of adding to their qualifications by obtaining the license, and in virtue of the amended law they slipped through and came away rejoicing though agreebly surprised. These men were made perfectly aware of the conditions supposed to be enforced at the time of their entrance to the medical faculty, but not having any definite wish to be enrolled in Quebec did not conform to the regulations, and certainly expected to be denied the license on account of their own negligence. The Laval men also know perfectly well what is required of them and the majority of the candidates declined, have been disqualified from inability to pass the examinations at the proper time.

Special meetings of the Montreal Medico-Chirugical Society, the Societe Medical de Montreal and Sherbrooke, were called in order to discuss the question, and by a unanimous vote the following delegates were sent to Quebec to oppose the measure. Drs. Lachapelle, Birckett, Penijo, Craik, Marsolais, Cyphiot, Cleroux, Boucher, Lesage, Dube, Sirois, Camirand, Langlais, Constantin. Valin, Boulet. Macdonald, Normand, Lotbiniere, Harwood, a number of Quebec physicians were also present. Dr. Lachapelle eloquently presented the case, but with only partial success, for on motion by Mr. Taschereau the following amended bill was reported from committee: "Notwithstanding Article 3978 of the Revised Statutes of the Province of Quebec, the College of Physicians and Surgeons shall grant the necessary license and registration required

for the practice of medicine, surgery and the obstetric-art to those parties, who having been inscribed as medical students and having commenced the medical course in a university of this province previous to 1st November, 1903, have obtained a diploma of doctor of medicine, after having followed the courses and studied during the number of years provided by law and the rules of the College of Physicians; and who can establish that they were then holders of the double certificates in Letters and Science, obtained after a classical course in one of the colleges of this province, or that they were holders of one of them and that they have since passed before the examiners named, in virtue of article 3979 of the Revised Statutes, a satisfactory examination in the subjects in which they had not hitherto passed."

The ninth regular post graduate course for general practitioners will be conducted by the Faculty of Medicine, McGill University, for four weeks, beginning Monday, May 30th, and closing on June 24th. The programme, which is composed of several courses with a view of affording opportunity for selection, will comprise the following branches:— Laboratory instruction including microscopical methods, clinical microscopy, clinical chemistry and urinalysis, analysis of stomach contents and clinical bacteriology. Special demonstrations will be given in operative gynæcology, Prof. Gardner; Operative midwifery, Prof. Cameron; Sanitation, Prof. Starkey; X-rays, Prof. Girdwood; Post-mortem work, Dr. McCrae; Life insurance, Prof. Wilkins.

Medical and surgical clinics at the Royal Victoria Hospital and Montreal General Hospital by Prof. Martin, Dr. Hamilton, Prof. Bell and Dr. Garrow, Archibald and Keenan, Prof. Blackader, Dr. Campbell, and Profs. Shepherd, Elder and Dr. K. Cameron.

Clinics in special departments as follows: Ophthalmology, including ophthalmoscope, Prof. Buller and Drs. Stirling and Byers; Dermatology, Dr. Campbell; Genito-urinary, Prof. Bell and Dr. Pringle; Orthopedics, Dr. Wilson; Laryngology, Prof. Birkett and Dr. Hamilton; Gynecology, Prof. Gardner and Drs. Lockhart, W. D. Cameron; Obstetrics, Prof. Cameron and Dr. Evans; Diseases of children, Prof. Blackader and Dr. Campbell.

A by-law ordering physicians or other qualified midwives to report to the Board of Health the births of all children in the city of Montreal has been passed by the city council. Its chief object is to ensure greater accuracy in the preparation of vital statistics. Up to the present, deaths only have been officially reported, and the city has been obliged to get information regarding the births from indirect sources. The by-law introduced by Ald. Dagenais declares: "It shall be the duty of every

qualified medical practitioner or midwife, attending at, or, in their absence, the parent or parents or any other person present at the birth of any child born within the limits of the city of Montreal, to sign and give a written report, within eight days after such birth, to the medical health officer of the city of Montreal, stating, as far as possible, the particulars required in the following form."

The information required in the blank form includes the date and place of birth, the name and sex of the child, its parents and their religious belief.

After making special provision for the registration of foundlings, the by-law fixes a penalty for false information not to exceed $40 or imprisonment for two months.

A similar bill introduced at Westmount last year aroused a great deal of opposition, but there is little likelyhood of any steps being taken to have this enactment withdrawn.

At the Montreal Medico-Chirurgical Society, Drs. Shaw and Springle read a case report on acute intestinal obstruction following labor, caused by a hæmorrhagic ovarian cyst pressing upon the bowel. The condition was a rare one and operative interference resulted in a good recovery. Dr. Hacketts showed a living case of excision of the clavicle for tuberculous osteomyelitis. The periosteum was left and the resulting shoulder girdle was excellent Dr. Girdwood and Chas. Higgins, B.S., D.V.S, read a paper on clinical observations on guinea pigs inoculated with tuberculosis and treated with currents of high frequency.

In this most interesting and well conducted series of experiments, Dr. Girdwood carried on the electrical treatment twice daily, while Dr. Higgins inocculated the guinea pigs and performed the post-mortems. The weights and temperatures were taken daily before and after treatment and the results tabulated. In general it was found that the pigs exposed to the current lived much longer and retained their weight better than those not exposed to the current, although kept under precisely the same conditions. Dr. Girdwood thought that in view of the results further experiments would be of value.

Dr. Adami congratulated the authors of the paper upon the care with which the experiments were conducted and thought that the results were distinctly encouraging and hoped that another trial would be made upon a larger scale.

MEDICAL SOCIETIES AND GATHERINGS

THE PROCEEDINGS OF THE SECOND REGULAR MEETING OF THE ONTARIO HOSPITAL ASSOCIATION, HELD IN TORONTO, APRIL 6TH, 1904, AND OF THE DEPUTATION THAT WAITED ON THE GOVERNMENT.

The second meeting of the Ontario Hospital Association was held at the King Edward Hotel, Toronto, on 6th April, 1904. The following persons were present: Mr. Edward Gurney, Toronto; Charles O'Reilly, M.D., Toronto; James Third, M.D., Kingston; John Ferguson, M.A., M.D., Toronto; D. M. Robertson, M.D., Ottawa; Mr. James McLauchlin, Owen Sound; Mr. George Rutherford, Hamilton; Mr. John Billings, Hamilton; Rev. Dr. McLeod, Barrie; Robert McLaren, St. Catharines; H. P. H. Galloway, M.D., Toronto; Mr. R. E. Nelson, Guelph; Mr. Frank Haight, Berlin; Mr. Fred Roper, Toronto; H. P. Sullivan, M.D., Toronto; C. S. Wainwright, M.D., Toronto; Mrs. Bassett, Toronto; Adam Beck, M.P.P., London; E. J. Pense, M.P.P., Kingston; Thomas Crawford, M.P.P., Toronto; Mr. Murphy, M.P.P., Ottawa.

Mr. Gurney, the President of the Association, occupied the chair. The minutes of the inaugural meeting of the Association were read and confirmed.

Dr. Ferguson, the Secretary-Treasurer, submitted the following statement:—

"Since we last met, twenty-five hospitals and thirty individuals have paid their membership fees. The hospitals are the Pembroke General Hospital; the Kingston General Hospital; St. Michael's Hospital, Toronto; St. Catharines General and Marine Hospital; the Collingwood General and Marine Hospital; Guelph General Hospital; the Woodstock Hospital; the County of Carleton and General Protestant Hospital; the Nicholl's Hospital, Peterborough; the Chatham Hospital; the Ottawa Maternity Hospital; the Berlin and Waterloo General Hospital; the Sarnia General Hospital; Grace Hospital, Toronto; St. Joseph's Hospital, Sudbury; the Ottawa General Hospital; the Royal Victoria Hospital, Barrie; the Children's Hospital, Ottawa; the Owen Sound General and Marine Hospital; the John H. Stratford Hospital, Brantford; the Hamilton City Hospital; the Galt Hospital; the Toronto General Hospital; the Toronto Orthopedic Hospital; and the Toronto Western Hospital.

"The following persons have paid their membership fees :—

"John Marshall; Hugh McLoy; J. P. Featherstone; C. C. Roy; H. R. Reid; T. W. Kenny; E. B. Eddy; J. R. Armstrong; R. P. Robinson, M.D.; J. E. Hanna, M.D.; R. A. Kennedy, M.D.; J. Ballantyne; A. S. Woodburn; T. Workman; Mrs. Bassett; Sister M. Monica; John Ferguson, M.D.; Edward Gurney; R. Roper; E. R. Wood; Allan Cameron, M.D.; C. O'Reilly, M.D.; S. F. Gardiner; George Roach; H. P. H. Galloway, M.D.; George Rutherford; John Billings; Frank Haight; H. J. Sullivan, M.D.; and C. S. Wainwright, M.D.

"The total income to date is $195.00, and the disbursements amount to $78.09, leaving $116.91 in the treasury.

"Since the last meeting a good deal of correspondence has been carried on with the hospital boards, with the view of inducing them to become members. There is no doubt but that all will eventually join the Association.

"The Association is destined to be of the utmost service to the hospitals of the Province. Already there are indications that it is accomplishing some good. But there is much for it to do in the matter of securing from the Government and the municipalities adequate support for the destitute poor. It is hardly fair that the funds of the various hospitals should be burdened with the maintenance of these cases. In this way the progress and efficiency of all the hospitals are greatly hampered.

"The proceedings of the former meeting were got out in pamphlet form, and sent to all the hospitals and to those who were likely to take an interest in the work. They were also published in the medical journals. Since the first meeting, I have given all the interests of the Association much attention, and I trust these efforts will be of value both now and in the future."

After a good deal of discussion on the needs of the various hospitals and particularly as to those patients on whom the hospitals are receiving municipal and Government grants, the following resolution was unanimously adopted :—

"Whereas it has been observed by hospitals that it requires about $5.60 per week to care for patients in hospitals and provide food, medicines, dressings, nursing, etc.

"And whereas the rates paid by municipalities on their indigent poor does not exceed 40 cents per diem; and that paid by the Government has now fallen to 17 cents per diem; or a total of less than $4.00 per week.

"And whereas the income of hospitals is limited to these grants, benevolent donations, and the payments made by private ward patients.

"And whereas any deficiency in the municipal and Government grants for pauper patients must intrench upon the other sources of revenue, thereby interfering with the working of the hospitals and the comfort of the paying patients.

"Therefore be it resolved, and it is hereby resolved, that in the opinion of the Ontario Hospital Association, the municipalities and the Government should take steps to provide more adequately for their indigent poor, which can be done as follows:—

"1. The municipalities should grant at least 50 cents per diem on their pauper patients;

"2. That the Government should make its grant to all patients paying $3.50 per week and less; and

"3. That the Government grant should be raised above its present amount by the addition of $20,000 to the present grant of $110,000."

It was also agreed that a copy be sent the Government.

After a very full discussion, it was recommended by the Association that all hospitals should advance the charges on pay patients by fifteen per cent. on the usual rates now charged.

It was also agreed that the proceedings be again printed in pamphlet form.

The Deputation.

In accordance with an appointment made with the Hon. G. W. Ross, the Association interviewed the Premier.

In the unavoidable absence of the President, Mr. Gurney, Dr. C. O'Reilly stated the objects of the deputation. He said that the cost of maintaining patients had been steadily increasing, whereas the Government grant had remained the same, namely $110,000. The number of hospitals and patients were increasing also. The Government grant now was only sixteen and a half cents per diem on patients paying less than $3.00 per week. The grant formerly was thirty cents per day, when the number of hospitals and patients were fewer. He stated that the resolution that had been agreed upon set forth the views of the Association. In a word the requests were: that the Government increase the grant by at least $20,000 a year, or make it up to 20 cents per day; and that it be paid on patients from whom the hospitals might receive $3.50 per week, or less. This would enable the hospitals to raise the minimum rate from 40 cents a day to 50 cents per day.

Rev. Dr. McLeod, of Barrie, said that the hospitals were doing a public service, and should receive more assistance from the general income.

Mr. E. J. B. Pense, M.P.P., of Kingston, urged the increase. He said that hospitals had to make constant appeals through churches and other ways for funds. If they did not, they could not keep their doors open.

Mr. George Rutherford, of Hamilton, referred to the increase in the amount of the succession duties, and that the amount of grant to the hospitals remained the same. It would be in the interest of all to increase the grant, as requested. The increase asked for was only 3 cents a day on those entitled to it.

Mr. Adam Beck, M.P.P., called attention to the fact that the poor availed themselves of the advantages of hospital treatment now much more frequently than formerly. This increased the drain upon the funds of all the hospitals, as the Government and municipal grants did not maintain these charity cases.

Dr. John Ferguson pointed out the fact that the loss on charity patients had to be met from the other sources of income. This interfered seriously with the work of the hospitals and the comfort and welfare of all the patients. The succession tax had reduced bequests.

Mr. Thomas Crawford, M.P.P., of Toronto ; Mr. Murphy, M.P.P., of Ottawa, and a number of other speakers endorsed what had been said.

The Premier in reply said that it had given him much pleasure to meet those interested in hospital work and to learn what was being done. He said he would confer with Mr. Stratton and give the matters discussed his very best consideration.

The constitution of the Association remained unchanged and is as follows :—

NAME.

The Organization shall be known as the Ontario Hospital Association.

OBJECTS.

1st. To procure increased Government aid for the maintenance of indigent patients in the public hospitals of Ontario.

2nd. To take steps to procure a proper amount of county and civic aid.

3rd. To promote, by mutual suggestion and discussion, the interests of hospital work throughout the province.

Meetings.

The Association shall meet annually in Toronto at such times as may be decided best in the opinion of the Executive, for the furtherance of the work of the Association.

Officers.

The officers shall consist of a President, six Vice-Presidents, a Secretary-Treasurer, and a committee of eight, who shall constitute the Executive, and of which number five shall constitute a quorum.

Membership.

Each hospital in the province receiving Government aid shall be entitled to be represented, and any member of its board shall be entitled to membership in the Association, but each hospital shall be entitled to one vote only.

Fees for Membership.

1st. It was moved and adopted that the minimum fee from each hospital be five dollars, and

2nd. That the fee for individual membership be one dollar.

The Result of the Deputation.

As the result of the deputation, the Ontario Legislature passed the following bill. This bill will enable hospitals to collect from patients and municipalities $3.50 a week and also retain the government grant. If this were enforced in all the hospitals it would mean an increase of 10 cents a day on those entitled to government grant. Last year, this would have meant 10 cents a day on 640,000 days, or $64,000 to all the hospitals.

An Act to amend The Charity Aid Act.

HIS MAJESTY, by and with the advice and consent of the Legislative Assembly of the Province of Ontario, enacts as follows:—

1. Subsection 2 of Section 5 of *The Charity Aid Act* is amended by adding at the end thereof the words:—

"But no person shall be deemed a paying patient by reason only of the payment by any municipal corporation to such institution of any sum which together with the amount contributed by such patient, or on his behalf from other sources, will not exceed each week the sum of $3.50."

TORONTO MEDICAL SOCIETY.

Stated meeting at the Orthopedic Hospital, April, 28th, 1904, Dr. Hunter in the chair.

Dr. B. E. McKenzie showed (*a*) a case, one of congenital dislocation of the right shoulder and paralysis of the left. The right had been straightened by an operation on the humerus.

(*b*) A young man who had been hurt at football and after a short time had been helped off the field. He had had a floating cartilage which he could at will bring to the surface, and that had been done and anchored before operation for removal.

(*c*) Two cases of excision of the knee. One had a family history of tuberculosis. The union was good.

Dr. McPhedran showed a case of a neurasthenia. Drs. Carveth, Bryans, Hastings and Wilson discussed the case.

Dr. Wilson showed a case of syphilitic spinal paralysis. History age 28, Canadian, a carpet weaver, married, 25-3-03, two weeks and a half after, she had a sudden pain in the shoulder, on the left side. In 24 hours, the right hand and both elbows were swollen. One week later, there was retention of urine, when the cathetor was used for a week, after this for a month there was incontinence. At the time of the retention there was a brown discharge from the vagina. It was not menstrual. The bowels were moved by purgatives without patient's knowledge of the motions.

Then numbness of the feet, hands, and arms and swelling were symptoms, after 8 weeks in the General Hospital, feeling began to return in the feet, legs, and left hand. About this time profuse sweating was present on the left side from the head to the ribs. All the reflexes were marked. Dr. McPhedran said that the recto-vestical centre was involved. It was what Erb had described as syphilitic spinal paralysis, where there is anaesthesia and bladder and rectual disturbance.

Dr. Mackenzie showed a case of histeria in a girl of 14, very exaggerated.

Dr. Hay exhibited three cases of fracture of the elbow which had been operated upon.

Dr. McMaster showed a case of tubercular skin disease which was under x-ray treatment; and which, he stated, was much improved though only a short time under treatment.

Stated meeting, May 5th, 1904. The President, Dr. Silverthorn in the chair.

Dr. W. J. Smuck showed a case of universal psoriasis. The young man had been troubled for some years; but last year, while in Muskoka during the winter, he was almost completely well. Arsenic had not been of much service in the treatment. Dr. Ferguson suggested the use of antimony for arsenic.

Prof. MacKenzie read the paper of the evening, which had been prepared by Dr. Oille "Regeneration and Degeneration in Arteriosclerosis." He showed also a number of fine drawings of the microscopical condition. Dr. Ferguson and Dr. Silverthorn praised the drawings.

Dr. Silverthorn then showed a specimen of abdominal teratoma, and gave the history.

The nominations were then made for the ensuing year.

Twenty-fifth annual meeting, May 19th, 1904.

The President occupied the chair.

Dr. Silverthorn exhibited some fine specimens of fractured bones. There were fifty in all, most being in the dry state, and of the femur.

Dr. Webster reported some interesting cases. First, a man who was said to have been drunk, and had passed a piece of paraffin into the bladder, he had advised operation to remove the supposed stone as had a number of other operators in the city, but this was refused. He then tried the lithotrite and had succeeded in bringing away, in the washing, pieces of phosphatic deposit upon some other body. In the teeth of the instrument there were some small pieces of paraffin. For some time solvents were tried but failed, and then the patient was instructed to pass water when leaning over the edge of a table and as near as possible in the position of standing on the head. This was successful, the pieces of paraffin being passed in this way, as it is a very buoyant substance. A number of the pieces were shown.

Second. A case of hypospadias, which a number of operations had failed to completely cure. He was operated on again and the contracted urethta removed. He had since married, and reported that the emission was deposited on the perineum. The following device was then used; a hard rubber catheter was passed into the meatus and urinated through, when it was found that there was no leaking. A condom was placed over this and the catheter passing through the end. By this means semen was conducted into the vagina. The result was that pregnancy took place and he has now a child.

Third. A case operated on a few days ago, where he had found that the ends of the tubes were closed, and pus was present in the end of one, which was due to staphylococci. The operation was undertaken

for a possible ectopic gestation, a small tumor-like doubling up of the fimbriated extremity of one tube being found, which had felt like the ectopic tumor. He reported the case, because it showed that pus might be found within the tube and sterility result from infection from within the abdominal cavity, though there was no inflammation or infection of the uterus.

The recording secretary reported that there had been fifteen meetings this year, five of which had been clinical. Four new members had been elected. The average attendance was twenty-five, just the average for the last five years. Twelve papers had been read by the members, two addresses given, forty cases reported, and fifty patients shown to the society, thirty lantern slides, one hundred x-ray photographs and fifty specimens.

The Treasurer reported: 1903, June, cash on hand, $89.32; fees collected since, $210.00; total, $299.32. Expenditure: Printing, $30.10; salary of Secretary, $25.00; sending notices, $25.00; collector's fees, $5.60; stamps, etc., $3.50; rent, 1903-4, $20.00; caretaker, $5.00; cash on hand, $185.12; total, $299.32.

Dr. Starr moved that in view of the splendid showing of the Society financially, that the time had arrived for this Society to pay back to the Workman Fund the money borrowed some nine years ago with the sum of thirty dollars as accrued interest. This was seconded by Dr. Beatty, and carried. Dr. Beatty then moved that the honorarium of the Recording Secretaty for this year be $30.00, and that the Treasurer issue a cheque for that amount. This was seconded by Dr. Hunter, and carried. Dr. Starr moved, seconded by Dr. Clarkson, that the thanks of the Society be placed on record to the President and other officers for its excellent financial condition, and the satisfactory reports for the year. The election for office resulted as follows: President, Dr. J. Hunter; 1st Vice-President, R. Hooper; 2nd Vice-President, H. Beatty; Recording Secretary, A. Fletcher; Treasurer, G. H. Carveth; Corresponding Secretary, Dr. Clarkson; and Council, Drs. Silverthorn, Hay and McPhedran.

ONTARIO MEDICAL ASSOCIATION.

The following changes and additions have been made in the outline of papers for the Ontario Medical Asssociation :—

Dr. Rudolph's paper, "The diagnosis of Functional Heart Murmurs;" Dr. H. A. Bruce's, "Report of a case of Resection of the Caecum, for Carcinoma;" Dr. Perry Goldsmith's, "The treatment of Ophthalmia Neonatorum and its complications;" Dr. C. B. Shuttleworth's, "A critical

review of the subject—Lithotomy versus Litholapexy;" Dr. Primrose's, "The surgical treatment of Epilepsy;" Dr. Burnham's, "Inflammations of the Lachrymal apparatus"; Dr. Marlow's, "Enlargements of the Prostrate Gland;" Dr. Elliott's (Gravenhurst), "Chest examinations—a system of recording observations;" Dr. H. P. H. Galloway's, "Report of a case of Bilateral Congenital Dislocation of the Hips treated by the Lorenz bloodless method, a brief review of the present status of the Lorenz method"; Dr. Hodge's, London, "Pain in the upper abdominal zone, its causes and diagnosis"; Sir Wm. Hingston's, "Thoughts on Cancer"; Dr. Clouse, Toronto, "Report of an unusual case of Pelvic Disease"; Dr. B. Z. Milner, Toront, "Lympho-Sarcoma"; Dr. H. Howitt, Guelph, "Personal Experience with the McGraw Elastic Ligature"; Dr. Wm. Oldright's, Toronto, "Some cases illustrating difficulties of differential diagnosis and treatment of Tumors;" Dr. T. K. Holmes, Chatham, "The treatment of Prostatic Hypertrophy;" Dr. W. A. Hackett, Detroit, "Some of the newer methods of diagnosis of Kidney cases as applied to Renal Surgery;" Dr. R. N. Fraser, Thamesville, "A group of Cancer Cases,—infection or coincidence"; and Dr. J. Sheahan, St. Catharines, "Peritoneal Inflammations during Pregnancy."

The complete list of titles of the papers upon Life Insurance as follows:—The Influence of Heredity upon the Expectancy of Life, Dr. H. R. Frank, Brantford; The Expectancy of Life in Morbid Conditions of the Geinto-Urinary System, Dr. F. Le M. Grasett, Toronto; The Expectancy of Life of the Cardio-Vascular System, Dr. R. J. Dwyer, Toronto; The Expectancy of Life of the Respiratory System, Dr. Edw. Ryan, Kingston; The Expectancy of Life of the Nervous System, Dr. H. C. Scadding, Toronto; The Influence of the Plan on the acceptance of risks for a Life Insurance Company, Percy C. N. Papps, Esq., A.I.A., Toronto, and The financial responsibility of the Life Insurance Examiner, Dr. B. L. Riordan, Toronto.

PROVINCIAL SANITARIA.

The Executive Committee of the Canadian Association for the Prevention of Consumption has appointed a committee to take steps to secure the co-operation of municipalities and of Governments for the establishment of a large sanitarium in each province for the treatment of consumption.

A committee consisting of all the members of the Executive Council resident in Ottawa was appointed to take immediate action for the purpose of organizing a branch of the association in Ottawa.

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EDITORIAL

NOTIFICATION OF TUBERCULOSIS.

Prior to the year 1882, when Koch gave to the world his discovery of the tubercle bacillus, it had been strongly suspected on clinical grounds that tubercular consumption was a communicable disease. The discovery of the germ settled this belief in the affirmative. A short time after the discovery of the bacillus, the late Dr. J. S. Bristowe said that "just as sure as the crop is the result of the seed, so sure is tuberculosis the result of the germ." But it is now admitted by all in the words of Dr. Arthur Ransom that "there is no case of tuberculosis without a previous case somewhere to account for it."

But as Prof. Clifford Allbutt said a short time ago, we have learned that phthisis is spread, not so much from person to person directly, as indirectly by the aggregation of people in close and badly-cleaned workrooms, in large post offices, in asylums, in industrial works, in overcrowded houses. We have learned that in public places and vehicles it is propagated by spitting and by the spray of the cough, and to know this is to prevent the disease." To prevent the disease, however, we must know where it is, and for this purpose information must be collected.

One of the difficulties in the way of notification is the difficulty of making a diagnosis early. With the modern microscopic aids to the usual clinical manifestations of the disease, there should be no very serious difficulty in this regard. In some places, as New York and Manchester, a system of voluntary notification exists. But this is not sufficient. Notification should be made universal and compulsory. It is only in this way that the haunts of the disease can be found out, and steps taken to put a stop to its ravages. We say now what we have been saying for many years that phthisis is a preventable disease, and by prevention rather than cure, we must seek to cope with it.

It is argued by some that the notification of cases of tuberculosis would entail great hardships upon the unfortunate sufferers. But duty is one thing and sentiment is quite another. The interests of the general public must be considered. The public, however, is now aroused, and

the victim of phthisis is soon detected, and to a great extent shunned. It is very wrong that a consumptive workman should be allowed to work beside others who are not affected, and without the strictest of safeguards. It is little short of a crime for a consumptive teacher to meet his classes from day to day; or, for a consumptive pupil to consort with the other members of the class. The fear in this matter cannot be controlled. It is abroad, and instead of trying to allay the fear, it is desirable that it should be stimulated into greater activity; for in this way there may be some hope of inducing the authorities to take proper action.

Every case of consumption comes from some other case, just as surely as does typhoid fever, diphtheria, or smallpox; but not with that suddenness that connects cause and effect, as in these latter diseases. Consequently, for a long time people's eyes have been blinded in this matter. It is quite true that consumption is not contracted by coming in close contact with a case, as in the case of smallpox. But this is true of typhoid fever also. No one nowadays would say that typhoid fever arises *de novo* in any person. The infection must be taken into the system. So also it is with tuberculosis.

It matters not what the soil may be, without the seed there can be no crop. So it is with regard to tuberculosis. The disease cannot begin *de novo*. Apart altogether from the constitutional tendencies of the person, there must be the bacillus; and, if every relative a person had, had died of tuberculosis, nevertheless, to have the disease he must become infected with the bacillus. Keep the bacillus out and there is no fear of tuberculosis. A great deal has been said lately about the soil. It might be said that any one is soil under certain conditions. It is poor policy to put any soil to the test of sowing bad seed in it. That some persons may be able to resist is no reason why they should be exposed to the risk of tubercular infection. The search for some remedy that will cure the disease may long remain within the sphere of experimental pathology. It is true that modern methods of treatment, with early cases, yield much better results than was once dreamt of; but it is far better to prevent than cure, even with these recent and better results. For this prevention two main conditions are required: the notification of cases, and supplying them with proper information; and the establishment of sanatoria, where these cases can be separated from the rest of the community. Both of these are requisite, and both will pay the public tenfold.

BRAIN FAILURE.

The brain is the organ of the mind. A certain condition of action of brain tissue means what we call consciousness. The brain is an organ of the body; is one of a numerous family, and is affected by its surroundings, as well as by what takes place in itself. Blood vessels flow to and from it, upon which its nutrition depends; and nerves connect it with all parts of the body, by which it becomes apprised of what is going on. It is very complicated in structure, being made up of many and varied centres, connected with each other by intricate pathways.

In all this we have the foundation for an endless variety of mental arrangements. Delusions, hallucinations, and illusions only show that the nerves carry wrong impressions, or that the brain centres read these impressions wrongly, or give rise to them de novo, because of some pathological condition in these centres. Hence it is that the speech and actions of the insane are but the language by which the diseased, or perverted, state of their brain is expressed. Delusions, hallucinations, and illusions may have a localizing value.

In the etiology of brain failure, the importance of heredity must be borne in mind. We must not, however, attach too much importance to this. It is a well-known fact that healthy persons, with good family histories, may be subjected to conditions that induce insanity. In the nervous system, as in the other systems of the body, the family characteristics are prone to run through many generations. Thus we meet with insanity, epilepsy, eccentricity, hysteria, nervousness, intemperance, vagabondism and criminality in different members of the same family histories.

The powerful influences of civilization must not be overlooked. The conditions of modern life are responsible, to a large extent, for the prevalency and extension of insanity. It is among the most highly civilized countries that mental derangement is most common; and, in these again, in the urban rather than the rural districts. This influence of civilization is well seen in paresis and the depression types of insanity. Although civilization is an important factor in the etiology of brain failure, it does not show its evil effects upon the educated classes; but rather upon the ignorant, or imperfectly educated, who appear to break down in the struggle with those more fortunate, or better educated.

With regard to age, it may be said that of every 100 cases the distribution will be as follows: 15 to 20, 7; 20 to 30, 21; 30 to 40, 29; 40 to 50, 24; 50 to 60, 11; over 60, 8.

Sex is of interest. The two great groups of causes of insanity in the male are traumatisms, and those of paresis. These cases have a high

mortality, and, as a result, there are fewer insane men than women. Married persons are less prone to insanity than the single. Widows are more liable than those whose husbands are living; but less so than widowers and bachelors.

Among the more directly exciting causes may be mentioned mental shock, domestic troubles, disappointments in love, religious excitement, and such like, of an emotional, or moral character, and exhaustive overwork and long hours.

The physical causes of insanity are numerous. These are the cases that occur at development and critical periods. There are many instances from injuries, such as those directly affecting the brain, or more indirectly, as sunstroke, or operations on other parts of the body. Organic changes in the brain, as tumors, diseased arteries, thickened meninges, may all be competent causes. Among the physical causes of brain derangement must be remembered the reflex influence upon it of disease in other organs.

A very important group of causes are the toxic. These injurious agents may be such as are taken into the system by the person, as alcohol, lead or drugs. They may be such as arise from the deranged action of various organs, as in disease of the kidneys, or digestive organs—the so-called auto-intoxication cases, and the toxic agents produced by the infective or germ diseases. This latter is a very important group of cases; and, lately, has been attracting much attention. Some very high authorities hold that the majority of acute insanities are due to intoxication by the products of some infective germ.

In not a few instances more than one cause pertains. The persons may have led a life of excitement, may have indulged unduly in alcoholics, may have contracted syphilis, and now be suffering from the toxic effects of the disease, a diseased state of the cerebral vessels, or a thickened condition of the meninges. Or there may have been overwork, domestic troubles, gout, and insanitary conditions of life. Or there may be arterio-sclerosis, renal cirrhosis, indigestion, uræmia and the accompanying asthma. Brain failure has, therefore, a wide etiology.

ARTERIO-SCLEROSIS.

Few questions are of more importance than that of arterio-sclerosis. Its etiology is by no means well known and its effects are very numerous and important, while its treatment is extremely unsatisfactory.

Many may recall a very instructive lecture, delivered about two years ago by Sir W. R. Gowers, on the subject of abiotrophy, in which

he tried to prove that many of the degenerations which take place in the body are due to an inherent tendency in some tissues to fail in their nutrition at an earlier period in life than they should, or than other tissues do.

At a recent meeting of the Toronto Medical Society, Professor MacKenzie read for Dr. J. A. Oille the report of the latter's research work on the subject of aterial degeneration. Dr. Oille's paper is an important contribution to this question.

He draws attention to the fact that in ordinary scar tissue, the formation of elastic tissue is a very slow process, and that many years may elapse before any appreciable amount is found in a scar, say from a burn. On the other hand, the formation of elastic tissue in the arterial walls is a fairly rapid process, so that if an artery is injured this kind of tissue is soon restored. This has a very important hearing upon the pathology of the arterial system, and throws light upon the practical impossibility of producing aneurisms experimentally.

It is now known that arterial degeneration may occur at almost any age, and instances have been observed of general arterio-sclerosis in quite young persons. Hereditary tendencies have been advanced as an explanation, but it must be borne in mind that this only shifts the problem a stage further back.

Diseases such as syphilis, poisons, as lead, tobacco and alcohol, faulty metabolism giving rise to auto-intoxication, over-exertion and mental worry, some special change in the quality of the blood interfering with its free flow through the capillaries, chronic renal cirrhosis, have all been put forward as causes for arterial sclerosis, or patchy degeneration of the arteries. It has been urged by some that an excess of uric acid is the most important factor, while others hold that an over production of adrenalin may maintain prolonged arterial tension and, ultimately cause arterial fibrosis.

A feature of the paper of much interest is the view that in general arterio-capillary fibrosis with cirrhosis of the kidneys, the disease has its commencement in the vascular system. Dr. Oille's paper also brought out the interesting fact that from the fibroblasts of the arteries both common fibrous and elastic tissues are developed, but from different portions of the fibroblast. It would appear that non-elastic tissue is formed from the inner portion, while the elastic tissue is formed from the outer portion of the fibroblasts. This is a matter of the highest importance in the study of this question.

It was also mentioned that patchy or localized degeneration of an artery was most likely due to a localized sclerosis of the vasa vasorum

The subject of arterial degenerations will bear much study, and we hope Dr. Oille will continue his investigations, giving out another instalment of his work at an early date.

COMPULSORY SERVICE TO THE PUBLIC.

As things are at present, doctors are called upon to perform a number of services to the state and municipalities for which they receive no fee. We know of no instance where the legal profession is called upon to render any service to the public free of charge.

Take the Province of Ontario alone, and there were 27,864 deaths recorded for the year 1902. Every one of these had to be certified by a doctor. This information is of the utmost value to the Province, as a basis for its vital statistics. To be of any value, these certificates must be reliable and record the causes of death truly. Doctors alone can furnish this information. Here, the law demands a public service from them, but gives them no remuneration for that service from the public purse. We think it is quite proper that doctors should be required to fill out such statutary forms, but we do not think that they should be asked to do it for nothing.

But when we turn to the subject of infectious diseases, we meet with a still more unjust state of affairs. The statutes clothe municipal and health boards with the power to demand the notification of infectious diseases, subject to a fine. Thus doctors are forced to render a most important service to the public free of charge and under the penalty of being fined if they do not render this free-of-charge service.

The Report of the Ontario Board of Health for the year 1902, gives 2,796 cases of smallpox, 3,458 cases of scarlet fever, 2,696 cases of diphtheria, and 1,542 cases of typhoid fever. There is not the slightest doubt that many cases were never reported. But, taking the above four diseases, doctors reported, on the free-of-charge plan, a total of 10,490 cases of infectious diseases. How very great the value of this information was to the municipalities and Province, it is quite impossible to say.

This whole question is much more one of principle than of fees. When the state calls upon any member of the community to render it a definite service, it must at the same time be prepared to pay for that service. When a man performs his statute labor, he receives in return the improved condition of the roads; and, for his taxes, he receives certain advantages, privileges and protections. For these countless death and contagious disease certificates, the doctors receive nothing. Are these services of less value than the performance of statute labor or the paying of taxes?

We believe that the Ontario Medical and Canadian Medical Associations might very properly give this matter their careful consideration. It is high time that the medical profession became united for business purposes as well as scientific pursuits. Legislation that might entrench upon its rights should be resisted, and the repeal of unjust enactments sought. We may mention the following matters as worthy of immediate attention :—

1. Free death certificates; 2. Free notification of contagious diseases; 3. Free vaccination by medical health officers; 4. Free attendance upon the municipalities' poor; and 5. Free attendance on well paid municipal officials and civil service.

THE ANTI-VIVISECTIONIST.

From time to time we hear the voice of the anti-vivisectionist in the land. There are some of the anti-vivisectionists who, no doubt, are honest in their objections and who think that all experiments on animals should be condemned. There are others who are ignorant of every principle of physiology or pathology, and who shut their eyes to every evidence advanced in proof of what experiments have accomplished. They are ignorant bigots.

A few days ago, Professor Goldwin Smith, in addressing the Toronto Humane Society said that vivisection should be called upon to show cause for its existence, and that those who performed experiments on dumb animals ought to do so with every regard to the avoidance of suffering, and the advancement of knowledge; and the practice ought to be reduced to the minimum of frequency.

To these sentiments of so able and so well intentioned a person as Mr. Goldwin Smith all will give a ready assent. From what we know of the practice in most of the experimental laboratories of the world, there is an honest desire to avoid experiments for mere amusement, or the infliction of torture. Experiments are performed with the sole object of discovering some physiological or pathological fact.

Some great discoveries have been made in a somewhat haphazard way, as the use of quinine in ague and mercury in syphilis. But it is from the laboratories that the steady light has come that illumines the way of scientic medicine. The physiological action of drugs and the wonderful life-history of germs have there been forced to yield many of their secrets. It is by experiments that we now possess a means of treating hydrophobia and diphtheria, and others are no doubt going to be discovered in the near future. There must be no slackening in the search for these means of treating and curing disease.

The antitoxine serum for diphtheria is far more than a compensation for all the pain that has been caused by vivisection, and more than a justification for future research along the same lines. I know of no form of vivisection equal in cruelty to that of the sportsmen who too often maim and wound for their own amusement. So far, I have not heard of the anti-vivisectionists taking up this subject. They might spend their energy on this or on some similar subject and let the physiologist and bacteriologist alone. These latter are working in the interests of humanity; and, in so doing, indirectly in the interests of the lower animals, as witnessed by the progress of veterinary medicine.

TUBERCULOSIS CONVENTION AT OTTAWA.

The fourth annual convention of the Canadian Association for the Prevention of Consumption was opened at the Normal School, Ottawa, April 22nd. Senator W. C. Edwards, President of the association, delivered his annual address. Mr. J. M. Courtney, Treasurer, reported a balance on hand of $1,999.73. The report of the executive noted the growth in public favor and usefulness of the association, and indicated an increasing activity in the dissemination of information relative to the prevention and treatment of consumptives.

The Secretary, Dr. Moore, had travelled extensively during the year, having visited, with two exceptions, all the places of importance between Sault Ste. Marie and the coast, and reported a growing interest in the work of the association. Three leagues are in affiliation with the association, the Toronto League with 600 members, Montreal League with 400 members, and the St. Francis, Que., League. The executive reported with regret that there are but 200 beds for the accommodation of consumptives in Canada, which was regarded a poor equipment with which to fight the disease.

The Secretary presented a communication from Dr. James Third of Kingston relative to the success which attended the open-air cure in the case of two consumptives who were quartered all the winter in a canvas shack.

A public meeting was held in the Assembly Hall, when an address was given upon animal tuberculosis and its relation to animal health, by M. P. Ravenel, M.D., a noted American authority upon consumption.

The association re-elected Senator Edwards, President; Mr. J. M. Courtney, Treasurer; and Rev. Dr. Moore, Secretary and Organizer. The Executive Council are Sir James Grant, Dr. C. A. Hodgetts, the

Bishop of Ottawa, Sheriff Sweetland, Drs. E. J. Barrick, Toombs, Fagan, Boyce, Bell and J. D. Lafferty.

The committee upon the relation of Governments to the crusade re-affirmed the need of municipal work in the crusade, and advised the medical inspection of schools and the isolation of all cases showing symptoms of consumption, and that such pupils be not allowed to return to school until certified to be free from disease, also that the Dominion Government assist in establishing one model sanitarium in each Province for the study and treatment of the disease.

The Committee on Preventive Measures reported, through Dr. Hodgetts, urging upon municipalities the necessity of placing tuberculosis upon the contagious diseases list. A committee waited upon the Government to urge that aid be given the Provincial Governments for the erection of sanitaria.

ANTI-SPITTING BY-LAW IN TORONTO.

The Anti-Spitting By-law was adopted 11th April by the City Council. There was no objection raised to it. The by-law provides for a maximum penalty of $1 and costs or three days in jail for spitting on the sidewalks, in public buildings, or on street cars. The people will be notified that the by-law is in force by means of small cards, which will be printed for distribution. Dr. A. McPhedran strongly urged the adoption of the by-law. The danger from expectorating on the sidewalks is much greater, the doctor stated, than the general public have any conception of.

It is gratifying to notice that opinion is growing in the right direction. Spitting in the streets, in public buildings, in street cars, is entirely unnecessary as well as thoroughly disgusting. But this would be of little moment were it not for the fact that it is a deadly practice.

Twenty years ago the writer raised the question of placing safeguards around those afflicted with consumption, but was only laughed at, and the statement was indulged in by one speaker that it would be a cruelty to restrict these sufferers and make any attempts at placing safeguards upon them. Another speaker said there was no use putting heavy weights on slender threads. But the world has been moving.

The tubercle bacilli will live some time, varying from hours to weeks, according to the conditions under which they may be placed. Dropped on the street, etc., they may be carried home on people's boots, by ladies' skirts, or wafted around by the wind in the dust. The great majority of cases of tuberculosis in the adult occurs in the respiratory

organs, a fact that proves that the infection enters with the inhaled air. It has been estimated that a consumptive ejects in his sputum from two to five billions of bacilli in twenty-four hours. It has also been calculated that one bacillus may increase to 1,700 millions in 24 hours.

Nothing further need be said in favor of the wisdom of a by-law forbidding spitting in public places. It has been repeatedly proven that dust collected from places where consumptives live or are housed frequently contains the germ, and is infective to animals.

There is now nothing novel in an anti-spitting by-law. Many cities have adopted regulations prohibiting spitting in the streets and public places. The Toronto by-law took effect, first June.

PATENT MEDICINES.

Once more we return to this subject. Under all sorts of names, mixtures are sold to the public, and the most extravagant claims are put forward regarding their virtues. The public in general are not capable of judging as to the merit of these proprietary compounds. It is, therefore, the duty of the government to protect the people against these fraudulent preparations.

Laws have been enacted against selling shoddy goods, and confidence men of all sorts. Let us have a law against the patent medicine fraud and humbug.

Ofttimes from the ignorant or dishonest, testimonials are obtained. These are published broadcast over the country, and the unwary are caught. No reason can be advanced why a medicine should be sold, backed up by impossible claims. Absolute cures are guaranteed for diseases that medical science knows to be incurable. If this is not fraud, then it would be hard to find out what is fraud.

But this is not all. These mixtures often contain ingredients that cannot be bought over the counter. Opium, chloral, alcohol in large quantities, etc., etc., may be freely purchased in proprietary medicines.

A law should be passed compelling every proprietary medicine to carry on the wrappers an accurate formula of its composition. This law should at once order off the market any preparation that contained ingredients that are now on the poison or prohibited lists; or that puts forth claims that are not warranted by its composition. Guarantees should be strictly prohibited.

There are certain general formulæ that may be useful for cuts, bruises, burns, coughs etc., but no stronger language should be allowed on wrappers than a simple mention of what they are useful for. The

moment the vendor undertakes to guarantee cures, the entire stock should be seized.

The person who for gain will guarantee to cure all forms of paralysis, kidney disease, every case of consumption, and cancer is only fit for the asylum on account of his mental condition, or for the penitentiary on account of his moral state.

THE VALUE AND NEED OF MUNICIPAL SANITARIA.

For some years past public opinion has been undergoing change on the question of tuberculosis. It is now accepted that the disease is contracted and that it is also preventable. No better proof of those statements could be furnished than the results of the preventive measures of the past few years.

We would urge upon the various municipalities to take steps for the erection of sanitaria. These need not be expensive, and their maintenance would not entail any serious burden upon the people. The majority of those who would avail themselves of these sanitaria could pay something towards their own maintenance. All over the civilized world there is a movement looking towards the establishment of such institutions for the treatment of consumptives.

Many will remember the lectures of Professor Bryom Bramwell, of Edinburgh, a synopsis of which appeared some time ago in the CANADA LANCET. In these lectures he urged the erection of such sanitaria, and went on to show that the sickness avoided and the lives saved would more than pay for all the outlay.

We are hopeful that, as the result of the efforts of the National Sanitarium Association, the Canadian Association for the Prevention of Consumption, and the several anti-tubercular leagues, the work that has been going on will take on a much more active phase; and that not a few, as is now the case, but many sanitaria for the treatment and isolation of consumptives will be scattered over the country.

ONTARIO MEDICAL ASSOCIATION.

The twenty-fourth annual meeting of this association will be held in the new Medical Buildings, Toronto, on the 14th, 15th and 16th June, 1904. From the arrangements that have been made, it is safe to predict a very successful meeting. By the time an association of this sort has attained the age of twenty-four years, it may be said to have entered upon its full manhood; this is true in a special sense in the case of the Ontario Medical Association. It never was a delicate child, and

is now a particularly robust adult; and is in the full enjoyment of the confidence of the medical profession of the Province, with a proud history to look back upon as a stimulus to even greater work in the future.

Dr. J. F. W. Ross, the President, and Dr. A. A. Macdonald, the chairman of arrangements, have given much time to the affairs of the Association; and will, no doubt, receive the thanks which they have so well merited by their efforts Upon their shoulders has rested much of the responsibility for the Association's success. The programme of papers and entertainments is first-class.

Now comes in the duty of the physicians. There is not much object in getting up so fine a bill of fare, unless there are a goodly number to partake of it. It is one of the features of the Ontario Medical Association, that the larger the attendance, the better the enjoyment. There is nothing selfish in any feature of the gathering. It is a genuine "flow of soul and feast of reason." If only one in ten of the practitioners of the Province should attend, the gathering would number well nigh 400. Just think of the effects of 400 of Ontario's active medical practitioners attending this convention for three days! These could not be otherwise than valuable both to themselves and the public.

THE CANADA LANCET hopes to see this the greatest of all the annual gatherings so far.—*Velut arbor concordia crescat.*

PURE WATER.

The importance of pure water cannot be denied. Disease may be spread in this medium with great readiness. It is the bounden duty of every city and town, undertaking to supply the people with water to see to it that the water thus supplied is safe for consumption.

Many outbreaks of typhoid fever have been traced to infected water, which was either drank or used in cleaning dairy utensils, and in this way gets into the milk. It is nothing short of criminal in a municipality to sell polluted water to its citizens and charge them for it. It is quite inexcusable, as, with proper precautions, the water can be either obtained pure, or rendered sterile, before it is delivered to the people.

In the majority of instances where cities supply impure water, the explanation is to be found in the desire to save money at the expense of health and life. Recently, in Toronto, the water was found to contain the bacillus coli communis, the colonoid bacillus, and streptococci in abundance.

If a dealer is detected selling adulterated milk, or foods, he is punished according to the law. But a city may go on selling dangerous water, because it would cost something to secure pure water. This can-

not be allowed to go on always. There must be a halting point somewhere. One of the absolutely necessary conditions of health in any city is pure water, and it is the duty of the civic authorities to procure a supply of pure water for its people.

The Provincial Board of Health is doing good work in directing attention to this matter. It cannot be insisted upon too often. When people ask for water, they do not wish invisible serpents in it, and deadly bacteria are such.

STREET CLEANERS AND CONSUMPTION.

A serious condition of affairs is said to exist in the City of New York. Out of a total of 5,000 street cleaners, no less than 1,000 are said to be ill with pulmonary tuberculosis, contracted by the inhalation of infected dust. It is both alarming and instructive to find such a large proportion of persons engaged in any occupation becoming affected with this disease. It proves beyond a shadow of doubt that pulmonary tuberculosis can and is contracted by the inhalation of dust.

It has been proven that the dust rising from the streets of cities often carries enormous numbers of the tubercle bacilli. Dr. Woodbury, who has charge of the men engaged in the street cleaning of New York, states that it is impossible to control the spread of the disease among the men unless the habit of spitting on the streets and in public places is strictly prohibited. "So long as people are allowed to spit on the streets the disease will run rampant."

Every sweeper is required to boil his uniform every other day, and when the new stables of the street cleaning department are completed each man will leave his uniform in the stable at night, so as to lessen the danger of carrying infection to his family.

THE ISOLATION HOSPITAL, TORONTO.

The opening of the new wing of the Isolation Hospital furnishes the institution with additional accommodation for which it stood in much need.

The first and second floors are finished in hardwood, and the third in clear white pine. It cost $32,000, and was up to specifications in every detail. The old building, erected ten years ago for $35,000, had accommodated eighty patients, had six bath rooms, no electric-wiring or special ventilating system and no steam coils in the top story. The new building had accommodation for 100 patients, a steam coil in every room, thirteen baths, the most modern system of ventilation, and a separate

room for every nurse. The Isolation Hospital and the Swiss Cottage Hospital had cost altogether $72,000, and in them Toronto had accommodation for the treatment of diphtheria, scarlet fever and smallpox for twenty years to come.

There is a well-managed school for the training of nurses in connection with the hospital.

DR. E. J. BARRICK, TORONTO.

It is with pleasure that we present our readers with an excellent likeness of Dr. Barrick, of Toronto. The doctor's work in behalf of consumptives deserves mention. He has been an ardent advocate of sanatoria for consumptives. It was largely through his influence that the Ontario Legislature, some time ago, passed an Act to aid municipal sanatoria. In time, no doubt, many municipalities will avail themselves of the provisions of this Act.

We wish Dr. Barrick every success in his efforts to secure the amount required to enable the Anti-consumptive League to claim the 150,000 voted by the City of Toronto, and thus place the city in possession of a splendid sanatorium for its consumptives. It would be a lasting monument to his name, and a boon to the people. No one should be jealous of what he is doing, but turn in and lend a helping hand. To Dr. Barrick's unselfish work in the cause of a sanatorium for consumptives for Toronto the good Latin adage, *miseris succurrere discit*, may be truthfully applied.

A DOCTORS' HEADQUARTERS.

It is with much satisfaction that we are able to announce that the Ontario Medical Library Association has secured a suitable property to be the repository of the large and valuable collection of books, now owned by the Library Association. The property is No. 9 Queen's Park. This is of ready access to those living in Toronto, and a delightful spot for the out-of-town doctors to pay a visit to.

It is understood that several medical societies shall hold their meetings in this building, and contribute something towards its maintenance. It will thus be used as a place for the books and for scientific work There is not a physician in the Province who cannot aid those who have charge of this matter. Now that there is a suitable place to put them, donations of books are in order and will be thankfully received by the officers.

UNIVERSITY OF TORONTO MEDICAL BUILDING.

The new medical building, at the end of its first year of use, has proved the value of proper and adequate equipment as a means towards encouraging work in the laboratories. In the old school, where the accommodation was not sufficient, it was a matter of difficulty to see that each student accomplished the quota of work assigned to him. During the past session, with apparatus and open laboratories at his disposal, every man at least fulfilled the requirements, and the vast majority did sufficient independent work to exceed that required by the regulations many times. The comparison was made by the professor of pathology, under whose direction the laboratory work of the senior years was carried on. The most noticeable increase was in the amount of work done by third year students in the clinical laboratories. Altogether the third and fourth year students made something over sixteen thousand analyses and examinations of clinical material during the year. This is three times what the regulations call for from the number of students concerned. It does not prove a greater love for the work, but it argues a more systematic study of the cases met with in the hospitals and a consequent gain in the practice of case-taking which is bound to prove its usefulness after graduation. It has been thought advisable to double the accommodation now provided for this department.

PERSONAL AND NEWS ITEMS.

Dr. A. A. Dann, of Toronto, has arrived in Galt and will practice there.

Dr. Robertson, of Kingston, will open a practice in Smith's Falls shortly.

Dr. Emmerson, of Toronto, has gone to London, England, to walk the hospitals.

Dr. J. T. Duncan has removed from 45 Bloor St. E., Toronto, to 165 Bloor St. E.

Dr. Harley Smith's friends will be glad to hear that he has recovered from his long illness.

Dr. Atkinson, of Mitchell, was married a short time ago. He is remaining in Mitchell.

Dr. Coats has taken the practice of Dr. Withrow and has taken up his residence in Galt.

Dr. and Mrs. J. W. Walker, of Ridgetown were at the King Edward, Toronto, recently.

Dr. W. R. Watson, of Burlington, has been appointed Associate Coroner for Halton.

Dr. Cook and Dr. J. H. Davidson have made arrangement to enter into partnership at Manitou.

Dr. J. A. Graham, a recent graduate of Kingston Medical College, has decided to go out West.

Dr. MacCormick, Enterprise, has removed to Smith's Falls, where he will practice his profession.

Dr. John Gunn, of Ailsa Craig, has been appointed house surgeon at St. Joseph's Hospital, London.

Dr. A. W. Hotham, who has been practising in St. Marys for some time past, has left for Manitoba

Dr. J. .L Davison, Toronto, left town last week for a six months' trip to England and the Continent.

Dr. Sinclair, of Manitou, Man., is moving to Manor, where he will engage in the practice of his profession.

Dr. A. W. Mayburry, formerly of Parkhill, will spend the summer taking a special course in the European hospitals.

The engagement has been announced of Dr. F. N. G. Starr, of 112 College street, to Miss McKay, of New Glasgow.

Dr. W. T. Connell, of Kingston, has been appointed assistant bacteriologist to the Provincial Board of Health.

Dr. Page, of Waterloo, has left for Quebec where he will practice as a specialist in diseases of the eye, ear, nose and throat.

Dr. J. E. Craig, of Ottawa, was married at Morrisburg to Miss Lillian Smith, B.A., daughter of Gilbert Smith of Morrisburg.

Dr. Warren has returned from England, where he and Mrs. Warren spent the winter. The Dr. made a short visit to his parents.

Dr. Golden, of Ridgetown, who left for California about five weeks ago has decided to locate there. The family will go west the coming fall.

Dr. Crawford, of Winnipeg, has returned from the south and re-opened his sanitarium at 382 Hargrave street on May 1, with new assistants.

Dr. P. H. Bryce, Dominion Medical Inspector, was in Quebec to superintend the fitting up of the Savard Park as a house of detention for immigrants.

Dr. McDiarmid, who looked after Dr. Young's practice in Atlin during the absence of the latter in Victoria, has returned. He is at the Vernon.

Dr. Philip, of Hamilton, a short time ago was in New York for a few weeks where his daughter, training as a nurse; was operated on for appendicitis.

Dr. and Mrs. Nicol will leave for their cottage in Muskoka, on June 15th. Miss Nicol will visit friends in Toronto and St. Catharines during the summer.

Dr. and Mrs. Franklin Dawson, of Spadina avenue, Toronto, sailed last week for Scotland, going later to London, where the doctor will do hospital work.

Dr. F. B. Miles, who for several years has occupied a position with Dr. Barbour at Fredericton, has gone to Victoria, B.C. He will open an office in the West.

Dr. J. Edgar Davey, of Hamilton, son of Rev. R. Davey, Waterford, was married recently to Miss Jennie Eldora Flatt, third daughter of the late Jacob Flatt.

Dr. Sheriff entered upon his duties some time ago as house surgeon at the Isolation Hospital, Ottawa, succeeding Dr. Campbell who has gone abroad to study.

Dr. McKenty, of Winnipeg, who was thrown from his carriage and badly shaken up, has recovered from his injuries and was able to preside at the examinations.

M. Turnbull, M D., C.M., has been appointed resident physician in St. Boniface Hospital, in succession to Dr. Herbert Davidson, who has gone to Manitou.

Dr. Herbert Davidson, who for the past year has been resident physician in St. Boniface Hospital, leaves to-day for Manitou, where he will practise his profession.

Dr. Neelands, Port Hope, has recovered from his recent illness and is able to be at work again. A partnership has been formed between Dr. Neelands and Dr. Hawkins.

A partial stroke of paralysis temporarily disabled Dr. H. R. Casgrain, Surgeon-Major of the Essex Fusiliers Regiment. The doctor was overworked at the time.

Dr. T. J. Dunn, of Beeton, is again in charge of his practice, Dr. Jamieson having returned to Collingwood. The doctor enjoyed his studies at John Hopkins University.

Dr. Robert D. Fletcher is in Baltimore, where he will take a post-graduate course in medicine at the Johns Hopkins hospital. He will return to Winnipeg at mid-summer.

Dr. Charles Morrison and Miss Agnes Hanley, Kingston, were married by Archbishop Gauthier. It was the first marriage ceremony performed by his grace since his elevation.

Dr. Fischer, who for the past two years has been house surgeon at St. Joseph's Hospital, London, left a few weeks ago for Waterloo, where he was born, and where his relatives reside.

Dr. McKenzie, who has been taking a Post Graduate course in London, spent sometime in Germany taking up a special course prior to his return to Brandon about the middle of May.

Dr. C. R. Elliott, formerly resident physician at St. Michael's and the Toronto General Hospitals, has been appointed by the United States Government, marine hospital surgeon at Seattle.

Dr. Warren H. Lang, who has about completed a year as house surgeon in the Winnipeg general hospital, leaves shortly to practice his profession in the town of Carman.

Dr. E. A. Ferguson, a Kingston Graduate, left for Toronto a few weeks ago en route for Britain. When in Edinburgh he intends taking a year of post graduate work in the medical college there.

Dr. and Mrs. Hannay, of St. John, will go abroad in June and will spend three months in England and Scotland. When they return in the autumn they will take up their residence in Fredericton.

Dr. Charles M. Smith, formerly of Orangeville, Ont., will start a practice in Peachland, one of the new towns in the Okanagan district. He qualified at the examinations held recently in Victoria.

Dr. Withrow, of Toronto, has gone to Fort William and will practise his profession with Dr. Hamilton. The doctor is an M.D., of Toronto ; M. R. C. S., of England ; and L. R. C. P., of London, England.

Dr. F. W. E. Burnham, who recently returned from Europe after two years spent in hospitals of England, Germany, France, Switzerland and Austria, has opened an office at 373 Broadway, Winnipeg.

Dr. Thos. Turnbull, who has been with Dr. D. B. Fraser for some time has left for Winnipeg. He has not decided whether, he will locate there or not, it being his intention of looking round a little before deciding.

Invitations have been issued for the marriage of Miss Helena Edith Mallory, daughter of Dr. and Mrs. M. B. Mallory, Toronto, to Dr. Chas. A. Harding, on Wednesday, June 1, in St. Margaret's Church, at 5 o'clock.

Dr. M. B. Dean, who was practicing in Fort William two years ago and went over to London, England, to take a course in the university there has accepted a position in Sierra Leone, on the West Coast of Africa.

Dr. Beech, formerly a practitioner in Pilot Mound, has taken up his residence on Salt Spring Island, B.C., where he has begun to practice his profession again. Salt Spring Island is two hours run by boat from Victoria, B.C.

Dr. E. Richardson has located in Sturgeon Falls and is occupying a suite of rooms in the Holditch Block, King Street. The doctor needs no introduction having practiced in this vicinity for some time with headquarters at Cache Bay.

Dr. G. W. Ross, son of Hon. George W. Ross, who has been in London for several months, was home for a brief vacation early in May. He will return to England almost immediately to spend a year in further research work in the hospitals there.

Dr. E. McEwen, of Carleton Place, was in New York for some time where he took up specialist work in the New York post graduate hospital. He has decided to remove right away to Port Arthur, where a more promising opening presents itself.

Dr. A. W. Hotham, of St. Marys, was in Mitchell recently, saying good-bye to his friends there prior to leaving for Southern Manitoba. The doctor has sold his practice in St. Marys to another young and enterprising practitioner there, Dr. Knox.

Dr. Jack Harty, eldest son of Hon. William Harty, who has been visiting many of the European centres, including the Eternal City, has returned home on Thursday. Dr. Harty's health has been greatly improved by this most enjoyable trip across the continent.

Prof. A. B. Macallum, professor of physiology at the University of Toronto, has left for a trip to Europe, including the meeting of the British Association at Cambridge, the International Physiological Association at Brussels, and the International Zoological Association at Berne, Switzerland.

For the second time within a year Dr. G. E. Millichamp, 49 Carlton Street, Toronto, was thrown out of his carriage and injured. The horse took fright at the carpet-cleaner opposite 83 St. Joseph Street and ran

over to Queen's Park, where Dr. Millichamp was thrown out. He was badly shaken up and had to be taken home in a cab.

The following Provincial appointments are announced; Dr. W. P. Chamberlain, Associate Coroner for Toronto; Dr. N. J. Amyot, Belle River, Associate Coroner for Essex, to succeed Dr. J. O. Reaume; Dr. J. H. Bull, Holland Centre, Associate Coroner for Grey; Dr. C. F. McPherson, Prescott, Associate Coroner for Leeds and Grenville.

Dr. Harvey J. Watson, Trinity '96, who for the past three years has been a surgeon in the U. S. Army in China and the Phillippines has resigned his commission and opened an office in Winnipeg, Man. Dr. Watson was the only Canadian doctor in the U. S. army, and went to the relief of Pekin with the allied forces in 1900.

Dr. Robertson, of Kingston, who was one of the party who had such a narrow escape from drowning last summer by his gasoline yacht striking a stump near Box's Island, was in Smith's Falls recently, and is likely to locate here and practice medicine. He is thinking of taking rooms in the Arlington Annex, Water street.

It is reported that Dr. David Smith, who has been assisting Dr. McWilliam, of Thamesford, for some time is leaving to go to Britain to to take post graduate classes in Edinburgh and other places. We wish him every success and trust that he will come back crowned with honors. Dr. Anderson, who was with Dr. McWilliam for a short time last year is expected again to assist.

After his successful and inspiring lecture in the Grand Opera House, Dr. Drummond was entertained at a banquet in the London Club by a number of friends and admirers, consisting principally of members of the medical profession of the city. The chair was occupied by Dr. Niven, who fulfilled the duties of toast-master, and gave the usual loyal and patriotic sentiments.

Sir William Turner, president of the General Medical Council of Great Britain, announced that a working scheme to promote a reciprocal relations between Canada and Britain in regard to practice and admission to the respective medical registers was not yet accomplished. It was intended to meet the difficulty raised by one Provincial Legislature, Canada declining to consent to the formation of a register for the whole Dominion.

Dr. John McCrae and Dr. William G. Turner were entertained at an informal supper at the Place Viger by the House Staff of the Montreal General Hospital and a number of their friends. Their retirement from the resident staff was made the occasion for an expression of

appreciation and good-will. Dr. McCrae, who has been resident pathologist for several years, is to take up practice in Montreal, while Dr. Turner, the superintendent of the past two years, leaves shortly for Europe.

The Royal College of Physicians and Surgeons, Kingston, is to be revived, with Senator Sullivan, one of the charter members, as president. This corporation has a royal charter, issued in 1866. Since the Queen's Medical College resumed its relations with Queen's the Royal College has been dormant. It is now proposed to revive it and utilize its examining powers in granting fellowships and the degree of F.R.C.P.S. This degree can only be secured on examination of a high standard and a thesis by doctors of five years' standing. Since 1892 the Royal College has conferred one or two degrees, but now it is proposed to thoroughly reorganize it and make it a live corporation.

Below are given the results of the final M.D., C.M., examinations at Trinity University:

Certificates of Honor—R. J. Manion, gold medal; J. A. Brown, silver medal; S. M. Lyon, J. A. Turnin, A. J. Fraleigh, R. A. McLurg, W. J. Chapman, H. A. Bray.

Class I.—F. J. Rundle, W. A. Atkinson and W. E. McLaughlin (equal), H. E. Kuoke, F. H. Hughes, S. J. Hillis, J. F. Adamson.

Class II.—W. H. Brown, W. J. Backus, G. R. Luton, T. G. Cameron, J. H. Wickett, W. A. Scanlon, N. G. Allin, B. C. M. Whyte, W. J. Barber, I. W. Lynn, F. C. S. Wilson, Miss L. Morden, A. V. Brown, G. H. Boyce, J. Fettes, A. A. J. Simpson, L. Clarke, G. H. Richards, Miss J. Allyn.

Class III.—B. M. Lancaster, J. H. Cascaden, R. J. Reade, J. H. C. Henderson, R. H. Taylor, T. Livingstone, H. A. S. Treadgold.

OBITUARY.

J. P. CHARTRAND, M. D.

The medical faculty of Laval has again suffered a great loss in the person of Dr. J. P. Chartrand, professor of practical anatomy, who died 26th April, of cerebral haemorrhage, after only a few hours' illness, at the age off orty-three years. Dr. Chartrand was a native of St. Andre Avelin. He studied his classics in the Joliette College and afterwards obtained his degrees from the Montreal School of Surgery and Medicine, then affiliated to Victoria University at Cobourg. Almost immediately after his admission to the profession, he was appointed professor of chemistry at the same school, and when that institution became united with Laval,

in 1892, he was given the chair of practical anatomy, which he retained until his death. At the beginning of his professional career, Dr. Chartrand passed some time in Europe, completing his studies under the most noted surgeons. He was one of the surgeons of Hotel Dieu and medical adviser to several benefit societies. Dr. Chartrand was a special favorite with the students, who will deeply regret his loss. In 1887 he married Miss Anna Prevost, who survives him. The funeral took place from his residence, 944 St. Denis street, Montreal.

S. SYLVESTRE, M. D.

The death of Dr. S. Sylvestre occurred suddenly at his residence, 1240 St. Denis Street, Montreal, shortly after nine o'clock, on Saturday evening, 2nd April. Dr. Sylvestre, while slightly unwell during the day, attended to his duties, and nothing indicated that the end was so close at hand. He was taken very ill after supper, and though medical aid was summoned, he passed away without recovering consciousness. He was forty-six years of age, and had been practicing in the north end of the city for twenty-six years. He leaves a widow and two children. The funeral took place to the Church of St. Louis de Mile End.

SIR PHILIP CRAMPTON SMYLY, M.D.

This distinguished Irish Surgeon died suddeniy of cerebral haemorrage on the 8th of April, at the age of 66. He studied in Germany as well as in Britain. He held a number of important surgical appointments, and was for a long time President of the Royal College of Surgeons in Ireland. He was a member of the General Medical Council of Great Britain. He was Knighted in 1892, and was Surgeon to the various Lords Lieutenant of Ireland. In 1895, he was surgeon-in-ordinary to the late Queen Victoria, and in 1901, honorary surgeon to King Edward VII. He contributed a number of important papers to surgical literature.

REGINAL HENWOOD, M.D.

The death occurred at an early hour, 22nd May, of Dr. Reginald Henwood, of Brantford. He was 76 years of age, and came to Canada from England in early youth, locating at Toronto, where he secured a provincial license to practise in 1846. Fifty years ago he removed to Brantford, and for nearly half a century did an enormous practice, retiring about four years ago. Death was due to general decline. Dr. Henwood was mayor of Brantford in 1882-83. He was a very prominent Mason, an Anglican in religion, and a Conservative in politics. He

is survived by three sons, Dr. A. J. and Edward, of Brantford, and George, of Victoria, B.C. All who knew Dr. Henwood recognized in him the highest ideals of the family physician, scholar, gentleman and friend.

E. A. DROUGHT, M.D.

Dr. E. A. Drought, of Morris, Man., died suddenly from heart failure, April 9th. He was sitting in a chair at the Commercial hotel, when he quietly leaned back and breathed his last.

BOOK REVIEWS.

VON BERGMANN'S SURGERY.

A System of Practical Surgery. By Drs. E. von Bergmann, of Berlin, P. von Bruns, of Tubingen, and J. von Mikulicz, of Breslau. Edited by William T. Bull, M.D., Professor of Surgery in the College of Physicians and Surgeons (Columbia University), New York. To be complete in five imperial octavo volumes, containing 4,000 pages, 1,600 engravings and 110 full-page plates in colors and monochrome. Sold by subscription only. Per volume, cloth, $6.00; leather, $7.00; half morocco, $8.50 net. Volume II just ready, 820 pages, 321 engravings, 24 plates. Philadelphia: Messrs. Lea Bros. & Co.

The second volume of this great work appears so soon after the first that a prompt completion of the whole is assured. American surgeons will thus enjoy the advantage of having a complete library of practical surgery, reflecting its subject in its latest development, and simultaneously fresh throughout. Their German confreres absorbed the early volumes of the first edition so rapidly that a second edition of them became necessary before the completion of the original issue. The success of the work in Europe was so great that it was immediately translated into Spanish and Italian, and a translation into English was undertaken in this country when the American publishers became aware of a revision in the German and decided to await its appearance. At the expense of a very short delay, therefore, American surgeons are placed in a position of decided advantage over their European brethren. Moreover, the corps of experienced surgeons who have translated the work under the editorial supervision of Dr. William T. Bull, have added those methods of practice which have gained preference in America, as well as many illustrations and colored plates. This great work in its present form may, therefore, truly be regarded as reflecting the latest knowledge of the masters of surgery throughout the world. Americans are quick to appreciate merit, and have evinced this trait anew in the immediate demand for this cosmopolitan surgery which has greeted the

issue of the first volume. It dealt with the Head, a regional arrangement which is conveniently continued by the consideration of the Neck, Thorax and Spinal Column in the second volume, now at hand.

The other volumes of the System will follow in rapid succession.

MUIR'S MATERIA MEDICA AND PHARMACY.

A Manual of Materia Medica and Pharmacy, specially designed for the use of Practitioners and Medical, Pharmaceutical, Dental, and Veterinary Students. By E. Stanton Muir, Ph.G., V.M.D. Instructor in Comparative Materia Medica and Pharmacy in the University of Pennsylvania. Third edition, Revised and Enlarged. Crown Octavo, 192 pages, interleaved throughout. Bound in extra cloth, $2.00 net. F. A. Davis Company, Publishers, 1,914-16 Cherry Street, Philadelphia, Pa.

This is an excellent manual. The author has been careful to make his descriptions brief and in this way covers all the important points in a book of less than 200 pages. The blank leaves are useful for notes and memoranda At the end of the book a considerable number of formulae are given. The subjects are arranged alphabetically throughout the book, which renders the book convenient for ready reference. It will be found a very useful manual, especially for students.

MUSSER'S MEDICAL DIAGNOSIS.

New (5th) edition. A Practical Treatise on Medical Diagnosis for Students and Practitioners, by John H. Musser, M. D., Professor of Clinical Medicine in the University of Pennsylvania; Physician to the Philadelphia and Presbyterian Hospitals; Consulting Physician to the Woman's Hospital of Philadelphia and to the West Philadelphia Hospital for Women, to the Rush Hospital for Consumption and the Jewish Hospital at Philadelphia; Fellow of the College of Physicians of Philadelphia; Member of the Association of American Physicans; President of the American Medical Association, etc. New (5th) edition, revised and enlarged. In one octavo volume of 1213 pages, with 395 engravings and 63 colored plates. Cloth, $6.50; leather, $7.50; half morocco, $8.00, net. Lea Brothers & Co., Publishers, Philadelphia and New York.

It has been well said of this book that "everything in diagnosis can be found in it," and from the frequency of its editions we might add that it is always up to date in a most vigorously advancing and practical department. With this volume alone the physician is well equipped in what must underlie successful therapeusis—namely, accurate diagnosis. In the case of a book recognized, as this is, as the standard authority, it is sufficient to mention some of the features of this new edition.

The arrangement has been completely changed to correspond with the development of the most logical and natural method of approaching a diagnosis in actual practice. Moreover, the entire work has been rewritten to attain the utmost lucidity. Through condensation in the

more theoretical passages space has been gained for explanation of practical points in fullest detail. This element and the natural growth of the whole subject, have required a total increase of one hundred pages.

The number of illustrations has been nearly doubled, and fourteen new colored plates have been added, making the total number of such plates no less than sixty-three. "MUSSER" is by far the most lavishly illustrated volume ever published on diagnosis, but this wealth has been wisely apportioned. The engravings and plates are all telling, and in connection with their accompanying text they focus a clear picture in the mind of the reader. It is a work that every practitioner will find of immense service, and those teachers who use it for their classes will find their own labors facilitated and the records of their students at examination reflecting credit on all concerned.

MANUAL OF CLINICAL MICROSCOPY AND CHEMISTRY.

Prepared for the use of Students and Practitioners of Medicine. By Dr. Hermann Lenhartz, Professor of Medicine and Director of Hospital at Hamburg, etc. Authorized Translation from the Fourth and Last German Edition, with Notes and Additions, by Henry T. Brooks, M.D., Professor of Histology and Path ology at the New York Post-Graduate Medical School and Hospital; Membe of the New York Academy of Medicine, etc. With 148 Illustrations in the Text and nine Colored Plates. Pages xxxii-412, Octavo. Bound in Extra Cloth. Price, $3.00, net. F. A. Davis Company, Publishers, 1914-16 Cherry Street, Philadelphia, Pa. 1904.

This work takes up vegetable and animal parasites, the 84 examinations of the blood in health and disease, the examination of the sputum, the examination of secretions of the mouth and intestinal contents, the examination of the urine, the examination of the aspirated fluids. The illustrations are numerous and good. The translator has rendered a real service to English speaking members of the medical profession in furnishing them with a good translation of this really useful work which has rapidly run through three German editions. It will be found a safe work for constant consultation in practical work.

OTT'S PHYSIOLOGY.

A Text-book of Physiology by Isaac Ott, A.M., M.D., Professor of Physiology in the Medico-Chirurgical College of Philadelphia, with 137 Illustrations. Philadelphia: F. A. Davis Company, Publishers, 1904.

The author states that it has been his object to give the main facts of physiology in a plain form. He remarks that physiology is the foundation for medicine, and that every practitioner should have a general knowledge of the subject. The work before us fulfills all the requisites of a safe guide on the subject of physiology. The author has

covered the ground fully in 560 pages. His style is simple, clear and direct; and the book shows that he possesses a wide acquaintanceship with the literature upon the subject, and has also a good practical knowledge of experimental work physiology. The illustrations have been well chosen. Altogether, the volume is an excellent text-book npon the subject of physiology.

WILCOX ON FEVER NURSING.

A Manual of Fever Nursing by Reynolds Webb Wilcox, M.A.,M.D.,LL.D., Professor of Medicine in the New York Post-Graduate Medical College and Hospital; Consulting Physician to the Nassau Hospital; Visiting Physician to St. Mark's Hospital; Fellow of the American Academy of Medicine; Member of the American Therapeutic Society, etc. Illustrated. Philadelphia: P. Blackiston's Son & Co; Toronto: Messrs. Chandler and Massey. Price, $1.00.

In this little book of 240 pages, the general subject of fever nursing is first examined and fully and ably discussed. The various special febrile diseases are then taken up. Throughout the book sound advice is given upon all the points that arise in the nursing of fever patients. We would like to see so useful a book in the library of every physician. It is not until one reads the book that he can form any idea of how much and what excellent matter it contains. The book is got up in a very attractive form.

THE MAN WHO PLEASES AND THE WOMAN WHO CHARMS.

By John A. Cone. Hinds and Noble, publishers, 31-35 west 15th street, New York City. Price 75 cents.

The author, in this little book, touches in a most graceful and delightful manner such subjects as the man who pleases, the woman who charms, the art of conversation, good English, tact in conversation, the voice, good manners, dress, personal peculiarities, etc. One of the most interesting of the chapters is the last, giving many quotations from eminent writers, bearing upon the subject of manners. The author is very apt in his quotations, and fits them together with much tact and skill. The book is very enjoyable reading and throws out many a good hint.

NEW BOOKS.

Messrs. W. B. Saunders & Co., of Philadelphia announce the following new books, or new editions of some of their standard publications. We recommend the perusal of the list to our readers.

NOTHNAGEL'S PRACTICE OF MEDICINE.

Tuberculosis and Acute General Miliary Tuberculosis. By Dr. G. Cornet, of Berlin. Edited, with additions by Walter B. James, M.D., of the College of Physicians and Surgeons, New York. Handsome octavo of 806 pages. Cloth, $5.00 net; Half Morocco, $6.00 net.

DISEASES OF THE INTESTINES AND PERITONEUM.

By Dr. Hermann Nothnagel, of Vienna. Edited with additions, by Humphrey D. Rolleston, M.D., F.R.C.P., of St George's Hospital. London. Octavo volume of 1032 pages, containing 20 insert plates. Cloth, $5.00 net; half Morocco, $6.00 net.

EPILEPSY AND ITS TREATMENT.

By Wm. P. Sprattling, M.D., Medical Superintendent of the Craig Colony for Epileptics at Sonyea, N. Y. Octavo volume of 628 pages, illustrated.

A TEXT-BOOK OF PATHOLOGY.

By Joseph McFarland, M.D., of the Medico-Chirurgical College, Philadelphia. Octavo volume of about 800 pages, beautifully illustrated, including a number in colors.

THE VERMIFORM APPENDIX AND ITS DISEASES.

By Howard A. Kelly, M.D., of the Johns Hopkins University, Baltimore, Md. Handsome octavo of about 800 pages, superbly illustrated with over 400 entirely original illustrations, including several lithographic plates.

CLINICAL DIAGNOSIS.

By L. Napoleon Boston, M.D., Medico-Chirurgical College, Philadelphia. Octavo volume of 525 pages, containing 200 illustrations, including 25 colored plates.

A HAND-BOOK OF SURGERY.

By Frederic R. Griffith, M.D., of New York. 12mo of about 450 pages, with 300 illustrations. Bound in flexible leather.

DISEASES OF THE LIVER,

By Humphrey D. Rolleston, M.D., F.R.C.P., of St George's Hospital, London. Octavo volume of about 1000 pages, beautifully illustrated, including a number of colored plates.

A TEXT-BOOK OF LEGAL MEDICINE.

By Frank Winthrop Draper, A.M., M.D., of Harvard University Medical School, Boston, Mass. Handsome octavo of nearly 600 pages, fully illustrated.

A TEXT-BOOK OF MATERIA MEDICA.

Including Laboratory Exercises in the Histologic and Chemic Examination of Drugs. By Robert A. Hatcher, Ph. G., M.D., of Cornell University Medical School, New York City; and Torald Sollmann, of the Western Reserve University, Cleveland, O. 12mo Volume of about 300 pages. Bound in flexible leather.

EXAMINATION OF THE URINE.

By G. A. de Santos Saxe, Pathologist to Columbus Hospital, New York City, 12mo Volume of about 300 pages, fully illustrated. Bound in flexible leather.

A TEXT BOOK OF OPERATIVE SURGERY.

Covering the Surgical Anatomy and Operative Technic involved in the Operations of General Surgery. By Warren Stone Bickham, M.D., of the College of Physicians and Surgeons, New York City. Second edition, revised. Octavo volume of about 1000 pages, with 559 beautiful illustrations, nearly all original. Cloth, $6.00 net; Sheep or half Morocco, $7.00 net.

THE PRACTICAL APPLICATION OF THE RONTGEN RAYS IN THERAPEUTICS AND DIAGNOSIS.

By William Allen Pusey, A.M., M.D., of the University of Illinois; and Eugene W. Caldwell, B.S., of the Edward N. Gibbs Memorial X-Ray Laboratory of the University and Bellevue Hospital Medical College, New York City. Second edition, revised and enlarged. Octavo volume of about 625 pages, with nearly 200 illustrations, some in colors.

A TEXT-BOOK OF MECHANO-THERAPY (MASSAGE AND MEDICAL GYMNASTICS).

By Axel V. Grafstrom, B.Sc., M.D., late of City Hospital, Blackwell's Island, N.Y Second edition, greatly enlarged and entirely reset. 12mo of 200 pages, fully illustrated.

MATERIA MEDICA FOR NURSES.

By Emily A. M. Stoney, Superintendent of the Training School for Nurses at Carney Hospital, South Boston. Second edition, thoroughly revised and enlarged. 12mo volume of 325 pages.

OBSTETRICS AND GYNECOLOGIC NURSING.

By Edward P. Davis, A.M., M.D., of the Jefferson Medical College, Philadelphia. Second edition, revised and enlarged. 12mo of 400 pages, fully illustrated. Bound in Buckram.

WRIGHT'S MEDICAL ANNUAL

The Medical Annual: A year book of Treatment and Practitioners' Index. 22nd year, 1904. John Wright & Co., Bristol, Publishers. Toronto: J. A. Carveth & Co. Price,

A goodly number of doctors are acquainted with Wright's Medical Annual, but not nearly as many as there ought to be. It is one of the most compact and "meaty" books we know of. It is full of information on every page. The material for the present volume has been collected and arranged by thirty-two of the best known physicians, sugeons and specialists in Great Britian, each one vying with the others to make his portion of the book the best. Running through the book there is an admirable terseness and clearness. A number of excellent plates and illustrations enhance the value of the work. It may be said with much confidence: *Nihil est quod non tangit; nihil tangit quod non ornat.*

CORRESPONDENCE.

MUNICIPAL SANATORIUM—TORONTO NEEDS ONE.

Editor of THE CANADA LANCET :

SIR,—I have been frequently asked this question : Is there need of a municipal sanatorium exclusively for our citizens suffering from consumption ? Unhesitatingly, I answer Yes !

The sanatorium at Muskoka is only for cases in the early stages of the disease, and is open to patients from all parts of the Dominion, and therefore has only limited room for Toronto, and, secondly, it is too far away to attract our consumptives in any considerable numbers, and thus inadequate to meet the needs of this city.

The so-called Toronto Free Hospital for Consumptives in the advanced stages of the disease (near Weston), and open to all Canadians, is no doubt an attractive card for securing subscriptions from all parts of the Dominion.

In this city there are continuously at least 600 persons in the advanced stages of the disease, in this province about 5,000, and in the Dominion not less than 15,000.

Now, it is reasonable to believe that from the extensive advertising that is being done at least 5 per cent. of these 15,000 may direct their faces towards this city ; and that upon their arrival at said hospital will find the fifty to one hundred beds all occupied, and realize that they are within a ten-cent car fare of the great city whose name had been used to attract them.

Thus year after year consumptives from all parts of the Dominion will be dumped into this city and become an intolerable nuisance, instead of being cared for in a sanitorium in their own county municipality.

In 1897 a meeting was held at Calgary, Alberta, to take steps to inform the citizens of the Dominion that the Territory of Alberta was a favored place for consumptives. The news spread and many consumptives turned their faces towards Alberta.

Dr. Lafferty, of Calgary, who had favored this movement, in addressing the Canadian Medical Association at Winnipeg in 1901, warned the medical men of the east not to send their consumptives to Alberta, as there was no sanitarium accommodation, that the hospitals, hotels and boarding-houses would not take them in, and that their condition was deplorable.

This, together with the experience of Colorado, California and other states, should be warning enough to our citizens.

The burning question in Toronto to-day is, shall our citizens contribute $25,000 so as to take advantage of the $50,000 voted by the

ratepayers and of the government aid of $4,000 for land and buildings and $1.50 a week for each patient and establish a municipal sanitarium under the Act exclusively for our citizens suffering from consumption, or shall this city become the dumping place of the whole Dominion for advanced cases of this disease?

April 18, 1904. E. J. BARRICK.

MISCELLANEOUS.

NECROSIS OF BODILY TISSUE

Edmond J. Melville, M.D., C.M., Bakersfield, Vermont, writes:—

When the absorption into the system of simple necrosis of bodily tissue produces fever and its usual train of symptoms, the line of treatment is plainly surgical. Nevertheless, cases arise when surgical interference is refused by the patient, is unadvisable and impracticable.

While no claim for originality is put forth by the writer, the following cases may serve to show that medical means have been too much overlooked in the past few years:—

CASE 1.—July 11, 1902, was called to see S.C., male, aged forty-eight, farmer. Bodily health heretofore had always been excellent, except periodic attacks of indigestion which were always relieved by free catharsis. Found him suffering severe pain over appendix. Temperature 102° F. Abdomen tense and tender in iliac region. Pulse 90; bowels constipated. Gave salines and opiates until free catharsis was produced and pain relieved. From above mentioned date until July 20th, very little pain was present, but tumor in appendicular region grew gradually until it reached the size of a child's head. Evening temperature 102° F., with morning remission of one or two degrees. General condition good. Patient dreaded an operation, and asked if nothing in the way of internal medication would be useful to him. My treatment for eight days had been complete rest and an ice bag on right iliac region. Having had some experience with ecthol (Battle & Co.) in septic emboli, I began its administration in one-drachm doses every two hours, and continued former treatment, with an occasional hypodermic of morphia to allay restlessness and insure physiological rest for the bowels. Saw no change until July 25th, when temperature began to fall until August 2nd, when it became normal and has remained so until present time, September 2nd. Tumor disappeared entirely in two weeks and he has made a complete recovery.

CASE 2.—G.S.F., aged eleven, had tooth extracted June 20th, after a preliminary hypodermic injection of a four per cent. solution of cocaine. Whether the solution was sterile or otherwise, on July 4th she began to

complain of tender gums and neuralgic pains of head and face. Upon examination the tissues surrounding the cavity left by tooth were found ulcerated and inflamed and covered by a dirty greyish slough. The surrounding teeth were tender and the gums boggy and engorged with blood. Temperature 103° F. Tongue coated. Pulse one hundred and twenty. Loss of appetite, and patient had a severe chill once in twenty-four hours, followed by exhausting sweats. Swabbed cavity and surrounding tissues every three hours with pure ecthol. Gave saline purges and one-drachm doses of ecthol (Battle & Co.) well diluted with water every four hours. Improvement was noticed on third day of treatment. Fever, sweats and rapid pulse were controlled. The unhealthy granulations disappeared and convalescence was established in ten days. Undoubtedly the symptoms in the above cases were produced by the presence and absorption of septic material, and in each surgical procedures were refused. I would not wish to be understood as taking a stand against surgery in cases where an operation is unavoidable, but I do believe that ecthol in some way is antagonistic to the chemical exudates produced by bacteria and is worthy of an extended trial in the hands of the medical profession.—*Medical Brief.*

TYPHOID FEEDING.

Although it is generally conceded that typhoid fever is essentially a systemic infection, the careful physician, when formulating his dietetic plan of campaign, will ever bear in mind the clinical importance of the local lesion in the bowel. The well-recognized principle of allowing an inflamed or ulcerated part the physiological rest to which it is entitled is as applicable to the typhoid bowel as to the fractured leg, the gastric ulcer or the rheumatic joint. It naturally follows, therefore, that fluidity is an essential requisite of the ideal food for the typhoid patient. Milk, while a fluid before ingestion, is more than likely to become a solid mass of dense coagula in the bowel, to mechanically irritate the ulcerated Peyer's patches, and eventually form a nidus for putrefactive changes. When, as in typhoid, a large detritus from ingesta is to be avoided Liquid Peptonoids (Arlington Chemical Co.) supplies the direct nutritional needs of the body.

THE PAIN IN RHEUMATIC GOUT.

Chas. P. Heil, M.D., late Professor of Anatomy, Indiana College of Medicine, Indianapolis, Ind., in the *Mobile Medical and Surgical Journal*, states: "Many of the cases of rheumatic gout which I have treated were of an obstinate and complicated character and I must state that I

myself have been suffering with an attack in the nature of a very severe inflammatory condition, situated in and over the articulations of my wrist, knee and ankle joints. The pain which I suffered most of the time was indescribable. I placed myself under the care of a physician, who, upon examination, pronounced me also slightly affected with cardiac trouble. I suffered the most excruciating pain for ten days and nights, without alleviation of my sufferings, nor apparent signs of progress for the better. Knowing full well the efficiency and value of Antikamnia Tablets in these cases, I took two tablets and about ten minutes after taking them the pain was relieved, I perspired slightly and then fell into a gentle sleep. The result was simply magical. I slept eight hours in perfect rest, free from all pain. I continued the two tablets every four hours during my convalescence and until complete recovery."

WHY?

Why should the Doctor specify the manufacturer whose products he desires dispensed on his prescriptions?

Because, given a correct diagnosis and the most carefully considered prescription, if the ingredients dispensed be inert or of poor quality, expected results would not be realized, the patient will blame the doctor, and the latter's reputation will suffer.

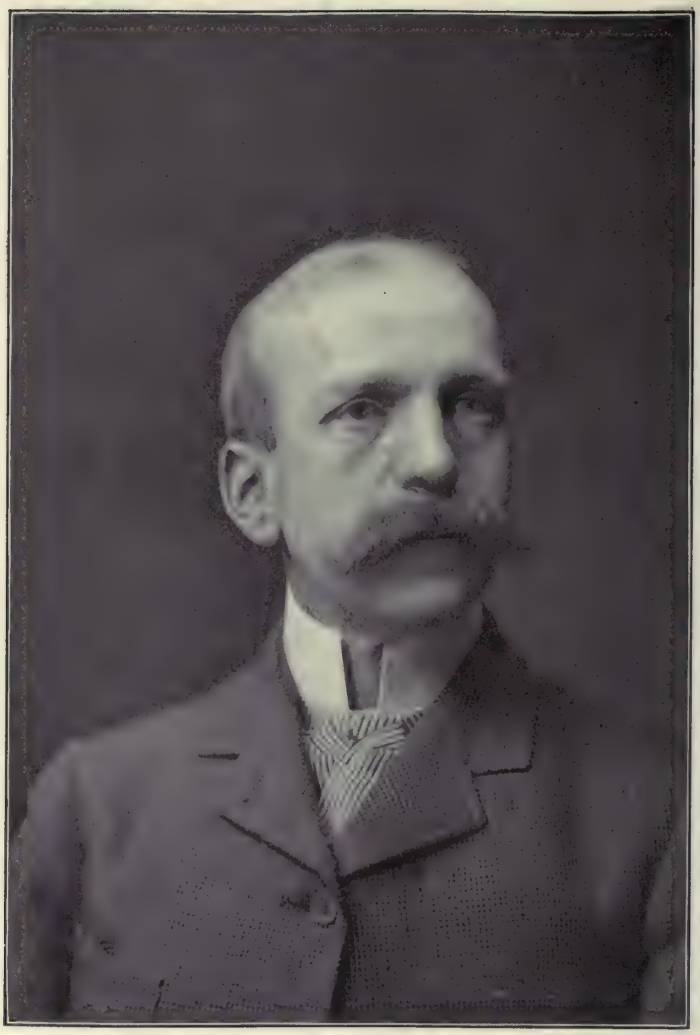
Why should the Doctor specify "P. D. & Co."? Please read carefully their pamphlet on "Standardization of Drug Extracts" for reply in detail, which can be summarized in these words:

"Parke, Davis & Co. spare no expense or pains to ensure the therapeutic activity of their medicinal products, and market the same on lines in harmony with the highest interests of the medical profession.'

SANMETO IN GENITO-URINARY DISEASES.

I have prescribed sanmeto with much satisfaction in diseases of the genito-urinary organs, with marked effect in prostatic troubles of old men, and in different kinds of urethral inflammation, even in gonorrhoea. It is certainly an excellent vitalizing tonic to the reproductive system. I am using original packages, except very rarely in smaller quantity, and then I am absolutely sure that no substitution is practiced, as I see to it with my own eyes, if necessary, that the genuine article is gotten by my patients. The subject of substitution, so largely practised, is one of pre-eminent importance, and needs to be watched by all physicians, with both eyes.

Russell, Kan. JOSEPH W. ROBB, M. D.



J F. W. ROSS, M.D., C.M.,
President Ontario Medical Association 1903-4; Professor of Gynæcology,
Medical Faculty, University of Toronto.

The Canada Lancet

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PRESIDENTIAL ADDRESS, TWENTY-FOURTH ANNUAL MEETING, ONTARIO MEDICAL ASSOCIATION.

By J. F. W. ROSS, M. D., C. M.,
Professor of Gynæcology, Medical Faculty, University of Toronto.

GENTLEMEN,—There are pinnacles to which we reach, only to be hurled down from the dizzy height into the valley below to be hidden from the rude storms of the world, and where peace and quiet and easy-going hum-drum pervades the spot, while the green grass grows under the feet. This is the well known valley of the "have beens." Hills have only two sides, one going up and the other going down, and when one has reached such honor as you have conferred upon me he has climbed the up-side and must begin the descent. One is elated with the honor, but grieved with a retrospect of all that led up to it; one is pleased with the evidence of the good-will of his fellows—and a better lot of fellows never lived in any profession—but subdued with that soul-shading feeling that youth is fleeting and age approaching. Each man naturally looks forward to the day upon which he may occupy the presidential chair, but when the day comes he would give much to be able to postpone the honor for another ten years. And now it is time for the past presidents to move up and make room for me; but I do not intend to be placed upon the shelf, if health and strength remain. We all like to mingle with youth, but, unfortunately, youth and age were never meant to mix, as Charles Kingsley has aptly put it:—

"When all the world is old, lad,
And all the trees are brown,
And all the sport is stale, lad,
And all the wheels run down,
Creep home and take your place there
The spent and maimed among,
God grant you find a face there
You loved, when all was young."

It is a satisfaction, in dealing with the awful miseries of life, to know that others suffer, that suffering and death are the accompaniments of life, and from this springs much of the beautiful sympathy that is witnessed by our profession. We have a grand work to do.

Charles Dickens has put it in the words of the doctor's wife where she says, " We are not rich in the bank, but we have always prospered and we have quite enough. I never walk with my husband but I hear the people bless him. I never go into a house of any degree but I hear his praises or see them in grateful eyes. I never lie down at night but I know that in the course of that day he has alleviated pain and soothed some fellow-creature in the time of need. I know that from the beds of those who were past recovery thanks have often gone up in the last hour for his patient ministration. Is not this to be rich ?"

The young doctor must have as his main master faculty, sense, common sense, and he must have a real turn for the profession. A great divine has said : " The grace of God can do much, but it canna gie a man common sense." The danger of the present day is that the mind gets too much of too many things. A young medical student may have, as one author puts it, zeal, knowledge, ingenuity, attention, a good eye, a steady hand, he may be an accomplished anatomist, histologist, analyst, and yet with all the lectures and all the books and other helps of his teachers he may be beaten in treating a whitlow or a colic by the nurse in the wards, or the Old Country doctor, who was present at his birth. The prime qualifications for a doctor have been given by Dr. Brown in the words, Capax, Perspicax, Sagax, Efficax. Capax, room, for the reception and proper arrangement of knowledge; Perspicax, a keen and accurate perception ; Sagax, the power of judging, ability to choose and reject; Efficax, the will to do, and a knowledge of the way to do it, the power to use the other three qualities.

The doctor must have a discerning spirit. There is a nick of time, or in other words, a presence of mind, and this he must have on, as Dr. Chalmers has said, " Power and promtitude." " Has he wecht, he has promtitude, has he power ? He has power, has he promtitude, and, moreover, has he a discerning spirit ?" The doctor must be as a general in the field or the pilot in the storm. I often think he belongs to no one in particular, but is a public property. His time is never his own. His children see little of him, and he leads a sort of Bohemian life, restless, active, thoughtful, worried, much beloved and occasionally cordially hated. He should be Bohemian in his tastes if he wishes for refinement to soften his manners and make him less of a wild beast. Art and literature, however, help to make noble only what is already noble, but such hobbies elevate and improve the mind and lift it above the rut of every-day life. A good education is a first essential. It is not necessary that everybody should know everything, but it is more to the purpose that every man, when his turn comes, should be able to do some one thing.

"The boy who teaches himself natural history by actual bird nesting is healthier and happier, better equipped in body and mind for the battle of life than the nervous, interesting, feverish boy with the big head and thin legs—the wonder of his class." It is well to have a pursuit as well as a study.

The doctor should marry, but his wife should be kept out of his work. Goldsmith said, "I was ever of opinion that the honest man who married and brought up a large family did more service than he who continued single and only talked of population." By marriage a man's sympathies are extended and his views of life are broadened. A touching picture of the refining influence of sorrow has been given us by Dr. Brown, the author of "Rab and his Friends," in speaking of his father. He says, "a child, the image of himself, lovely, pensive, and yet ready for any fun, with a keenness of affection that perilled everything on being loved, who must cling to someone and be clasped, made for a garden not for the rough world, the child of his old age. This peculiar meeting of opposites was very marked. She was stricken with sudden illness. Her mother was gone, and so she was to her father the flower he had the sole keeping of, and his joy in her wild mirth, watching her childish moods of sadness, as if a shadow came over her young heaven, were themselves something to watch. She sunk at once and without much pain, her soul quick and unclouded and her little forefinger playing to the last with her father's curls, her eyes trying in vain to brighten his. The anguish, the distress was intense, in its essence permanent. He went mourning and looking for her all his days." But the affection, we learn, softened and refined him, and made him better fitted for his work. His son tells us further that "his affectionate ways with his students were often very curious. He contrived to get at their hearts and find out all their family and local specialities in a sort of shorthand way, and he never forgot them in after life."

And such attentions are valued throughout life, and the clay is moulded and figured and ornamented and enriched and burned in the fire, and fitted for the battle of life, And the defective articles must be rejected and the broken articles may, perhaps, be mended. but they are never the same again, and, perhaps, we would be better without them. Our ranks must be kept clean. We must have a good, healthy professional growth, and in Ontario I am glad to say that such exists. The regular who adopts the methods of a quack is a much more dangerous individual than the quack himself. But we have others who are by no means quacks, who unfortunately lack discernment, and who do not

mean to do the harm that they certainly occasion. Our duty is to relieve and not to cause suffering. Some surgical procedures of the present day require severe criticism. Surgeons may be too conservative or not conservative enough. A few years ago we had an epidemic of the former, and now we are suffering from a plague of the latter. We are able to do so much that we are apt to do more than we should. I hope that the few dangerous individuals will soon be quarantined, so that the death rate and the cripple rate may diminish and the epidemic be checked. The epidemic has been spreading and has assumed large proportions, and seems to affect chiefly young and middle-aged nervous women. Men with exposed organs appear to be fairly free from its ravages.

But, as a profession in general, we have been making great strides. The State is being saved from the enormous losses incident to great epidemics, and the medical profession is out of pocket as a consequence. It does not appear that proper efforts have been made to reimburse the doctors. We are asked to do what our friends, the lawyers, would take good care not to do without a proper arrangement for the payment of a proper fee. We are asked to register births, to register deaths, to notify regarding infectious diseases, and to attend the poor without remuneration. These are not charities. We are assisting and defending the commonwealth, and the commonwealth should pay us, and we should organize and agitate with this end in view. Unless such matters are attended to and a new method of payment of members of the profession is adopted, the numbers entering must be considerably reduced. In China the doctor is paid for keeping the family in good health. In Canada we, as a profession, protect the people from dangerous diseases, but the services are not paid for and are scarcely recognized. A few officials take all the fees. Our real charity is not among the really needy but among the apparently well to do. A proper revision of the relations of medical and surgical fees to one another is much needed, and a ruling of the Association on the ethics of commissions is required. A special committee of this Association should be appointed to investigate these matters and submit a report at our next meeting. It has been said that knowledge is no barren cold essence, but it is alive with the colors of the earth and sky, and is radiant with light and stars. If we endeavor to follow along the lines of experimental investigation of natural phenomena, we must obtain a fondness for the impartiality and truth which such a study incites. Says Draper, "we will thus dedicate our days to the good of the human race, so that in the fading light of

life's evening we may not, on looking back, be forced to acknowledge how insignificant and useless are the objects that we have pursued."

A paragraph that has greatly interested me by way of a retrospect, is the following: "In olden times, the surface of the continent of Europe was for the most part covered with pathless forests; here and there it was dotted with monasteries and towns. There were low-lying districts, sometimes hundreds of miles in extent, that spread agues far and wide. In Paris and in London, the two largest cities, the houses were built of wood, and daubed with clay and the roofs were thatched with straw or reeds. There were no windows and very few had wooden floors, until after the introduction of the saw-mill and such a thing as a carpet was unknown. A little straw scattered here and there in the room was the covering used for the floor. As there were no chimneys, the smoke of the ill-fed, cheerless fire, escaped Indian wigwam-wise, through a hole in the roof. It is needless to say that in such habitations, there was but little protection from the weather. No attempt was made at drainage and the putrefying garbage and rubbish were thrown out of the doors. Men, women and children slept in the same apartment and not unfrequently with domestic animals as companions, and as a consequence, neither modesty nor morality could be maintained. The bed was usually a bag of straw, and a wooden log for a pillow. Personal cleanliness was unknown and great officers of the state, even dignitaries so high as the Archbishop of Canterbury, swarmed with vermin. Perfumes were largely used to conceal personal impurity. Many of the citizens clothed themselves in leather, a garment that with its ever-accumulating impurity lasted for many years. If a man could procure fresh meat once a week for his dinner, he was considered to be in easy circumstances. Not only was there no house drainage but there was no street sewerage. There were no pavements or street lamps. After nightfall, the shutters were thrown open and the slops were unceremoniously emptied down, to the discomfiture of the wayfarer, tracking his path through the narrow streets, with his lantern in his hand." What a picture for us to criticize in the present day! And yet we scarcely realize all the hard work, ignorance, bigotry, persecution and glorious self-denial that have given us what we have to-day in our Western civilization.

Much progress has been due to the work of societies, such as that grand old society, the Royal Society of London. As university men and as educationalists knowing as we do that our present day conditions are due to the dissemination of knowledge, we should organize and promote similar societies and see to it that they hold as

prominent a place in the community as the churches. It was by the Royal Society that Harvey's discovery of the circulation of the blood, was first accepted. The same society gave so much encouragement to vaccination that Queen Caroline submitted her own children to the operation. All scientific observers are satisfied that Queen Caroline was right and the Royal Society was right. Then it was demonstrated that scurvy, the curse of long sea voyages, could be cured by the use of vegetable substances. We follow along and find jails and buildings ventilated and illuminated with gas. Cities were lit up, and made much more habitable. If we expect to have progress, we must rally around our educational institutions and see to it that they are well provided with the means required to carry on efficiently and well the work of scientific investigation, and that they are untrammelled by the views of either church or state, remembering always, that the slogan of the twentieth century is, "Knowledge is power." If this is done, man cannot lapse again into the dark days of the dismal centuries, when pestilences were looked upon as the visitation of God and not as we know them to be, the consequences of filth and wretchedness, easily prevented by personal and municipal cleanliness. In the twelfth century it was found necessary to pave the streets of Paris, as the stench from them was unbearable. Dysenteries and spotted fever, that had been prevalent, diminished and a sanitary condition was soon established, that approached to that of the Moorish cities of Spain, that had been paved for centuries. But alas for backsliding. Many of the Spanish cities have been allowed to lapse into an insanitary condition and the evidences of Spanish sanitation, as I saw it in Cuba, were not calculated to excite enthusiasm. Under the control of Western civilization and the proper application of knowledge matters have been changed. When it was decided that plagues were not a visitation of God, quarantine was established. Nothing has protected the human race to a greater extent than the establishment of proper quarantine.

When anæsthetics were first introduced their use in labor was discouraged as it was believed that women should not escape the curse denounced against them in Genesis. Now anæsthetics are, I hope, very universally used, to prevent the awful agonies of labor, by an enlightened, educated, scientific and humane profession. The very best evidence that can be brought forward to emphasize the benefits to mankind of improved methods of living has been obtained from the British Government reports of life insurance transactions, carried out in the 17th and again a hundred years later in the 18th century. In 1693, the British Government borrowed money by selling annuities on lives from infancy

upward, on the basis of the average longevity. The contract was profitable. Ninety-seven years later, another tontine of scaleof annuities on the basis of the same expectation of life as in the previous century, was issued. These latter annuitants, however, lived so much longer than their predecessors, that it proved to be a very costly loan for the government. It was found that while ten thousand of each sex in the first tontine died under the age of twenty-eight, only five thousand seven hundred and seventy-two males and six thousand four hundred and sixteen females in the second tontine died at the same age, one hundred years later, or in other words, 20,000 died in the first period and only 12,188 in the second period of one hundred years later, a very greatly diminished mortality, all conditions being identical except the improvements wrought by advanced sanitation.

Once fairly introduced, discovery and invention have unceasingly advanced at an accelerated pace. Each continually reacted on the other, continually they sapped supernaturalism. The diffusion of knowledge by the newspapers and reviews has immensely increased the power of the press. Where ignorance reigns, crime is prevalent. In such cities as Naples, where the education laws, such as we have in Ontario, either do not exist or are not enforced, the streets are filled with street arabs, who are a nuisance and a menace to society, growing up in squalor, ignorance and filth. In our Western civilization such a condition of affairs cannot exist and I trust never will exist. The intellectual enlightment, surrounding scientific activity, has imparted innumerable and invaluable blessings to the human race. Science is not confined to any one nation, but is cosmopolitan. We are living in an age of electric progress. The marvels of electric force have been studied and utilized for the great benefit of mankind. To-day the mummified remains of an Egyptian King Amenophis, who lived thousands of years ago, are viewed in the original tomb, with the aid of the rays of the electric light. The telegraph and telephone are to be found in the very heart of darkest Africa. The discovery of the achromatic microscope has rendered us great assistance in studying the nature of disease and the x-ray has enabled us to pierce what was before impenetrable gloom. The harvest is ready but not riper than it has been for centuries, but there are more enlightened and better educated and better equipped workers in the field. There is very much to be done and we must be constantly up and doing. I say this particularly to the young and enthusiastic. The foundation of our knowledge as modern doctors is science and the superstructure must be built upon scientific lines. Hospitals are needed, not such as those that were first established,

but modern, properly equipped and up-to-date institutions, with modern up-to-date methods.

Many hospitals have been erected through the munificence of individuals in the towns, throughout our country. Every town of any size should have its hospital. Such institutions are not intended to do the work of the larger ones in sixteen larger centres ; but there is a certain amount of work that can never reach the larger centres that can be done very satisfactorily in small hospitals properly equipped and served by a properly educated profession. Assistance from the larger fields of observation can be obtained when required and under improved conditions such aid will be of greater service. The almost universal use of the electric light aids our work very materially.

Our prisons have been improved. Our younger criminals have been cared for. Our insane have been kept off the streets. Our poor are being looked after and now health and comfort go hand in hand. The true function of our study and deliberation is to prevent rather than to cure disease and we are fulfilling our functions. But yet death reigns everywhere and at all times, and in all places and we know it. But he is not the stalking giant that he was. He has been marvelously reduced in stature. Our medical press requires considerable regeneration. The articles published are not censored as rigidly as they should be. Much that is written and published is incomplete, speculative and inaccurate and hence misleading. Our journals should be purely scientific publications and not the hot beds for the propagation of unstable theories. Looking back is not always a pleasant pastime but there is a definite certainty about it, that does not belong to the future. All that has been printed is liable at any time to be reviewed.

And now in closing, let me say that during the year that has passed, a much desired amalgamation has been effected between two of our greatest educational institutions, Trinity and Toronto University. At first the task looked like a hopeless one, but owing to the good feeling existing between the rival faculties, it was finally achieved. Our province stands high in the banking world, in the musical world and in the educational world. I was gratified to hear our provincial University so well spoken of in the mother land and even in Egypt. The Medical Faculty of the University of Toronto, as now constituted with its ever increasing facilities, stands second to none in Canada at least, and the work accomplished, as evidenced by the standing obtained by our students abroad, is of a very high order.

Fathered by this Association, is an institution intended to be a guardian and repository of our archives. We must be prepared to pre-

serve our records for the use and assistance of those who come after us. A calamity befell the world when the Alexandrian library was burned, and a calamity would befall the profession of this province if the books, collected under the name of the Ontario Medical library, should meet with a similar fate. We are about to occupy new premises, but we need more money to carry on the good work. This is not a municipal matter but a provincial and professional need and I hope that many of the out of town members of this Association, will assist us. Such an institution to do the work well must be liberally endowed.

Three trustees have been appointed and through the generosity of the members of the profession of Toronto, of our good friend, Prof. Wm. Osler, of Mr. Geo. Gooderham, of Mr. E. B. Osler, Mr. Timothy Eaton and the executors of the Estate of the late H. A. Massey, ten thousand dollars are already in sight.

I desire to thank this Association for the great honor it has conferred upon me and to thank those who have organized and arranged this meeting.

I feel sure that the hope and desire of every member of this vigorous twenty-four year old Association is that it may long be spared to write, to teach and to guide the medical profession of this our great Province.

THOUGHTS ON CANCER.*

By the Hon. Sir WM. HINGSTON, F.R.C.S.
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WHATEVER may be the state of our knowledge in other departments of the healing art, we must admit we know little of the etiology of tumor formation generally, and especially of these forms we are accustomed to call "malignant." These are still, as Kelynack, observes, "shrouded in darkness and mystery." Yet at no time in the history of surgery has cancer occupied a greater share of thought than at the present time. France and Germany have long been pursuing most diligent investigations to unravel its hiddenness. In Great Britain a Cancer Research Fund has been recently established and the function of general superintendent of cancer investigation has been created: To supervise workers; to collect statistical, dietetic, topographical and other information; to organize a system of correspondence with Home, Colonial, Indian and Foreign Laboratories; to invite the Colonial Offices to assist in obtaining information as to the relative prevalence of cancer in the

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various Colonies of the British Empire; and to trace, if possible, any connection with the mode of life, food, habits, environment, and so forth, of the inhabitants. How much will be accomplished by organized investigation of this character and how much by the unobtrusive individual worker in the quiet of the hospital and the laboratory—time alone will determine.

A couple of months ago the Cancer Research Fund of the Royal College of Physicians and Surgeons made its first report. It consists of three papers: The first—the Zoological Distribution of Cancer, showing the disease to exist in most of the domesticated animals; in many of the wild; and in several of the fish tribe. The second—dealing with the Transmissibility of Cancer, establishing beyond a doubt—at least in the case of mice—that carcinoma can be transmitted from animal to animal. A third—taking exception to the view that cancer consists in a change from normal tissue to malignant—or as stated by Campbell, "that cancerous growth is caused by the degenerative reversion of epithelial cell to a germinal type, in association with a local irritant; and in the presence of an abundant blood supply.

In other parts of Great Britain private charity comes to the aid of a local research fund. Thus in Liverpool, for instance, one person leads off with a subscription of $50,000. The Liverpool Royal Infirmary furnishes a ward for facility of observation and experiment, and its University has placed five large rooms at the disposal of the research fund for the same purpose.

It is quite beyond the scope of this paper to discuss the *nature* of cancer. That aspect of the question is as yet incomplete. One writer expresses the view that the disease is due to a pathogenic organism belonging to the numerous yeast family; another, that it is an animal organism; a third, that it is in any case a parasite; a fourth, that it arises from some, not always recognizable, disturbed action of the natural compotent parts of the body. At the present time the tendency of thought is towards the theory that the origin of cancer is extrinsic—that there is, as Meyer observes, an extrinsic cause, and that it remains only to discover it.

If cancer has a parasitic origin, has it a micro organism of its own? If it has, so soon as the nature of that organism is understood we may indulge the belief that a specific cure of cancer may ultimately be found. So far, however, there has not been successful cultivation, outside the body, of those micro-organisms which have been supposed to be of malignant growth. And this notwithstanding what the French style "Cancer a deux,"—an accident so extremely rare as scarcely to deserve

mention. But where attempts have been deliberately made, as by Alibert upon himself, his medical friends and students, the result has been invariably negative.

So far, therefore, it may be said, the origin of cancer remains an enigmatic secret. For my part the conviction is forced in upon me from bedside observation, that the cause of cancer is perverted action, possibly inflammatory, without, at first, the usual evidences of inflammation ; or, in other words, that it is perverted nutrition. This is the view I have held for many years.

But while every diligence is being exerted to unravel the *causes* and *nature* of cancer, something less problematical, something less doubtful, is forced upon our notice—its *increase*. Cancer is greatly on the increase, and reliable statistical information is at hand in support of that opinion. "After all the necessary corrections," says the British Medical Council, "there is an enormous increase in the registered mortality from malignant disease in all civilized countries having a complete register of causes of death."

"In London alone," says Dr. Caldwell Smith, "the cancer death rate has increased from 65 per 100,000 to 95 per 100,000 in five years ; in fifty years it more than doubled. Observers have remarked that the increase is chiefly from visceral cancer.

The cancer death rate in England and Wales increased between four and five times in fifty years. On this side of the Atlantic the question of the increase of cancer has been carefully gone into by Warren, of Boston, and Roswell Park, of Buffalo—and no men in America, you will admit, are more competent to conduct an investigation of this nature—and the conclusion arrived at by both, independently of each other, is in favour of increase. The State Board of Health of Massachusetts says : "Every year there is an increase in the reports to the State and the number of deaths from cancer, even when allowance is made for age and greater population." And Professor Roswell Park, speaking of his native State, says : "If, for the next ten years the relative death rates are maintained, we shall find that ten years from now there will be more deaths in New York State from cancer, than from consumption, small-pox and typhoid fever combined."

Statistics in Canada are as yet too incomplete to be of much value, but the experience of hospital physicians and surgeons is to the effect that cancer in Canada is *greatly* on the increase. It has been said by those who do not share this view that "a surgeon's personal experience is often misleading, as cases in which he is specially interested are constantly being sent to him by friends and former pupils, and one case

brings another from among the public." That view I have taken carefully into consideration, but I am the more impressed as to the greater frequency of cancer than formerly, and as to its steady increase, from observation outside of my own special field of labour.

And while the disease is on the increase, medicine has effected little save by co-operating with surgery, to enable the knife, with all the safeguards asepticism can secure, to penetrate parts of the body hitherto regarded as beyond its reach.

The internal specific treatment of cancer, either local or general, has rarely been without claimants to the possession of some special knowledge of a remedy claimed to have been acquired, inherited or revealed. I should not be disposed to treat, at all seriously, the claims of those who pretend to cure cancer by the internal administration of remedies; for, notwithstanding the certificates of cure which are daily appearing in the public press and elsewhere, it may be safely stated that hitherto, internal remedies have been found to be without any value whatever.

And what can be said of the claims for excellence put forth on behalf of those *external* applications which are imposed upon a credulous and easily deceived public? *Pari passu* with the admittedly occult nature of the disease, the treatment, it is contended, is not within the usual bounds of ordinary medical knowledge, and thus the cancer curers, by plasters and unguents of mysterious action have increased in numbers and in presumption. The ordeal to which patients sometimes subject themselves at the hands of ignorant but pretentious quacks, for the removal of supposed cancer, and the suffering and disfigurement which sometimes result, are conditions we occasionally witness from the use of plasters long since discarded by the profession as unsafe, unscientific, unsurgical and uncertain. I once saw a woman who had had a wart on the back of her hand. It was a harmless excrescence on the skin, but a cancer curer assured her it was malignant. Contrary to the advice of her family physician she permitted a plaster to be bound upon the part. On her arrival at the hospital a few weeks later, not a vestige remained of the dorsal aspect of the hand; neither tendon, ligament, nerve nor blood vessel. The metacarpals, from carpus to phalanges, were black as charcoal and dead. The cutaneous palmar surface, however, still retained vitality, and after a while the patient returned home carrying with her, a limp, flexible hand, without the usual bony support, but bound up with the assurance that while her hand had been lost her life had been saved. If the Charlatan knew nothing of surgery, he could form some fair notion of the patient's credulity and supply her with a text which suited her case exactly: "if thy right hand offend the" and so forth. And was it

not her right hand which had offended. Verily the text had been written in anticipation of her case.

I turn from isotericism and occultism to something more intelligable, where deduction from certain manifest qualities are the result of experimentation.

Its Treatment.

The treatment of malignant disease by *Electrical methods* has for some time attracted notice. Although success has not generally followed these attempts, yet patience and energy have sometimes been rewarded by improvement. The healing of an ulcerated, cancerous surface says Lewis Jones, has been observed in a certain proportion of cases; relief of pain in cancerous parts is a fairly common experience, and superficial nodules, undoubtedly cancerous in nature, will sometimes decrease notably in size under electric treatment.

The science of electricty, however, is yet in its infancy, and the *technique* of its application is imperfectly understood, while the reluctance of the surgeon to counsel treatment involving delay are, and will be for some time, hindrances to the more general use of electricity, save in those cases which cannot be easily reached by the knife. It is yet too early to speculate on the results of the electric treatment; some are of the opinion that they can bring about the painless removal of the slow-growing epitheliomas. I shall content myself with stating, that the treatment which is said to be successful in causing diminution of hyperaemia, inflammation, infiltration and serous exudation, may, ultimately, be found to be of permanent value.

A new, a powerful, and as yet not thoroughly understood, and not always easily controlled therapeutic agent, has been added to our armamentarium in the treatment of cancer and other diseases. By one or other of those wonderful deductions from light and heat and from certain modifications of the electric waves, or from their analysis and separation, whether as the X or Roentgen Ray, the N-Ray or Cathode Ray, the Rays of Blondlot or the Alpha, Beta, Gamma Rays, the Finsen Rays, or the Rays of Charpentier, or that mysterious phosphorescent ray, likened to that which is developed during muscular action or mental effort. Whatever name they bear and whatever the source of their potency, a power has been created to be utilized to our advantage. Have these rays or any of them the therapeutic value claimed for them? The illustrations we find in medical journals on both sides of the Atlantic would seem to speak encouragingly of this painless form of therapeusis. The latest at hand is from the London Middlesex Hospital Cancer Research, where after trying various remedies with generally

unsatisfactory results it says: "In x-rays we have an agent capable of doing more for superficial cancer than any other hitherto known. The work already done in Canada is evidence of intelligent and persevering effort. Dr. Girdwood has effectually cured intractable rodent ulcer and benefitted recurring epithelioma, and Dr. Leforest has effected the extensive destruction of hair follicles in bearded women without producing even an erythematous blush.

With the assumption—and it is so far only an assumption—that cancer is a micro-organism, the therapeutic value of some of those forms of electric force most amenable to control, may yet be found capable of bringing a hitherto distressingly frequent and cheerless malady under subjection. But it must not be forgotten that improvement occasionally noticed in the more superficial forms of cancer, as epithelioma for instance, must not be allowed to lull the sufferer into dangerous security. I have many times, by the application of an escharotic, kept under subjection, for many years, epitheliomata of the eyelid, face and lip, and have obtained their final disappearance without the use of the knife. But of the deeper form of cancer it may still be said with MacIntyre of Glasgow, "that the serious, deep-seated affections which, in the public mind at least, may be considered synonymous with the word cancer, have so far baffled us. The problem remains to-day as great as ever." Perhaps in the future the penetrative ray may be isolated from its surroundings and be sent on its errand of mercy deep through the normal tissues without affecting them, and attack the hidden morbid growth at greater length or less depth, as in our northern lakes and rivers, the sun rays sometimes pass through the thickest ice without melting its surface, and establish centres of liquefaction in many places in the interior of the frozen mass.

So far the various forms of the x-ray, whatever name they bear, act as stimulants and excitants, producing, at first, tingling; then as irritants and caustics producing pigmentation as in sun burns, erythema and other evidences of dermatitis; then if continued, vesiculation or desquamation; then deeper congestion and stasis, leading to all the changes we may notice in burns. But these severer effects are begotten, in some measure, of inexperience in adjustment, on the one hand, or of accommodation on the other, and are becoming less frequent as the new power can be more intelligently measured and the tolerance or power of resistance of the individual better understood.

I can only allude *en passant* to artificial fluorescence of living tissue, and wish for it more than has hitherto been vouchsafed to other methods.

The still more modern treatment by Radium, it is claimed, has given promise of success, But reports, so far, as to its value as a therapeutic agent are not encouraging.

Notwithstanding the advantages sometimes resulting from the employment of the Roentgen or other rays, Symes' dictum of upwards of half a century ago remains as true as it was then; that in the treatment of cancer when the disease can be wholly removed reliance must still continue to be on the knife.

But why the knife? Is cancer curable by operation? To this I unhesitatingly reply in the affirmative, provided the operation is done sufficiently early, permitting the entire removal of the disease *and that it is removed.*

I now proceed, but most hurridly, to deal with some of those forms of cancer to be met with and first of the digestive system. As to the tongue. Although sharing the opinion that its partial removal is wrong in principal, there are cases arising from local irritation where partial excision affords excellent, and in some cases, permanent results. In total extirpation it is marvellous what recuperative power is sometimes met with. I once removed a cancerous tongue down to the hyoid bone, separating it close to the epiglottis, pharynx and soft palate, and with the tongue I removed the whole of the lower jaw, as well as the sublingual and submaxillary glands on one side; yet the patient—an old man—made an uninterrupted recovery.

Concerning Cancer of the throat. One might read Sir Morell Mackenzie's book on the late Emperor of Germany's fatal illness; and then the comments of the German surgeons and of the German and British Medical press, and decide as to what is and what is not cancer in those regions, and act or not act accordingly.

As to the operations of the stomach for cancer, it may be said: they will be satisfactory or otherwise in direct ratio to the care and prudence with which cases are selected for the knife and the cases are few. The delay sometimes caused by medical treatment; the difficulty, often, of diagnosis when seen, and of deciding as to the extent of the disease, will always make operations on the stomach anxious, and too often uncertain. It is only when the disease is confined to the stomach itself—where it has not gone beyond that organ, nor infiltrated into neighboring glands or organs that any hope of success need be entertained.

Gastrotomy is yet on its trial, and the time afforded has not been sufficient to enable one to decide whether the operation introduced by Billroth, some years ago, possesses all the advantages claimed for it. Let me guard you against an error which is too prevalent—the belief

that disease of the pyloric end of the stomach from ulcer, passes, after a time into cancer of that organ. Ulceration, often with resultant stenosis, continues as such, and rarely, very rarely, becomes cancerous. Treatment should be based on this assumption, and should not be influenced by a dread lest the painful, but non-malignant gastric ulcer might eventually become the more formidable malignant affection.

I pass over *gastro-intestinal operations* hurriedly, as each case of malignant disease of the stomach and bowel has a law unto itself. But the cases are comparatively few where surgical interferenee is warrantable. When malignant disease is limited to the pyloric end of the stomach, and when its constricted condition interferes seriously with the passage onwards of the contents of the stomach, relief is often obtained from the junction of that viscus with the doudenum or jejunum. But, while relief is sometimes marked, it is often unhappily but for a time, when, as Maylard observes, "vague but suggestive symptoms insidiously reappear," prompting one to ask, "is it for the real benefit of our patient to rescue him from death, simply to die over again." I should have been disposed to answer in the negative; but the recent address in Surgery by that brilliant writer and operator, Mayo Robson, leads to the conclusion that, not only as a palliative, but as a curative measure gastro-enterostomy must take its place among the regular operations in surgery.

Cancer of the large intestines—whether of the caecum, ascending or descending colon, or of its hepatic, splenic or sigmoid flexures—may in some few cases demand surgical interference. But while contemplating operation on the lower bowel, it is well to bear in mind Jonathan Hutchinson's recognition of exaggeration in two directions: "The danger of the operation he says is put much lower than it really is while the probable duration of life without it, and the possible freedom from pain are much underrated."

Although the diagnosis of cancer of the head of the pancreas may, with the aid of Courvoisier's law, often be made out "deep, painless jaundice and enlarged gall bladder," the recognition of these conditions is sometimes insufficient as a safe prelude to surgical interference In a case mentioned by Stewart of Leeds, where cancer of the head of the pancreas was found at the autopsy, a prolonged search of over half an hour was made for the gall bladder but none was present.

A considerable number of cases of cancer of the *rectum* having come under my notice, I may, perhaps, be in a position to express an opinion as to the best means of dealing with them. In general terms I may say: in the early stages, when the disease can be circumscribed,

and its base well defined with the finger, Langenbeck's operation, called the *low* operation offers many advantages. When the disease is not so limited colotomy may be resorted to, or it may with advantage precede proctotomy. When, however, the disease is more advanced, Kraske's operation presents itself as a last and almost forbidding alternative. I have performed the operation with Bardenheur's modification several times, and I am not enamoured of it. As the lower excision of the rectum is practicable in but a small percentage of cases, Kraske's operation is advisable in a still fewer number. There may be comfort, however, in knowing that cancer of the lower bowel, being usually a columnar carcinoma, as Rose and Carliss observe, is not so malignant as cancer elsewhere. Most of you will recall, no doubt, cases where well marked carcinoma of the bowel existed for years without producing any great disturbance.

In suspected cancer of the womb the early diagnosis of malignancy is of the first importance. The diagnosis clearly made—even sometimes by microscopical examination of scrapings by the curette—what operation should be performed?

Some surgeons give preference to the vaginal, others to the abdominal method. We should not be prejudiced adherents of either, although I have practised both. When the disease is clearly limited to the os and cervix, the vaginal method, it appears to me, is preferable, as being less hazardous to life. When disease is in the body of the uterus with possible involvement of the appendages, the abdominal route, methinks, offers superior advantages. The extent to which the disease has spread when within the uterus should not deter from operating. In other parts of the body the lymphatic system is generally involved at an early period, whereas, in cancer of the womb the lymphatics are not affected until the disease has advanced, by direct extension, into the adjoining parts. This circumstance seems to have led the editor of the British Medical Journal to state: "If cancer of the womb is only recognized early enough, it can be removed with small risk, and with a good prospect of years of freedom from recurrence."

In those *inoperable cases* where closing the vagina, draining through the rectum, ligaturing the arteries, etc., have been proposed as methods, I am free to confess I do not endorse. Curetting offers, methinks, a much better result, especially when followed by application of a proper caustic, or, perhaps, by one of the forms of x-rays.

Concerning cancer of the uterus and ovaries, the observations as to surgical interference are almost identical, for the risk of operating upon either is about equal. As early operation in cancer of the appendages,

as of the uterus, is, when successful, usually attended by relief of the more distressing symptoms. Moreover, the differential diagnosis is comparatively easy, and the limits of the disease may be somewhat correctly defined.

What has been said of the ovary may be applied to cancer of the *Fallopian tube.* The difficulty, nay, the impossibility sometimes, of disuniting affections of these two organs, and the unwisdom of attempting, even were it possible of accomplishment, to remove the one and retain tha other, renders it usually necessary to excise both or neither.

Perhaps I should notice, *en passant*, the operation of oöphorectomy, not for disease of the ovary, but for recurrent or re-appearing disease of the breast. It is not easy to explain how the removal of a healthy organ at a distance, can destroy cancer germs in the organ involved, however intimate sympathy may be between the two. Besides, oöphorectomy is not always the harmless operation it is claimed to be by those who regard it as a cure, or even as a palliative, for cancer of the breast. The operation has been performed many times, and we have yet to learn a result which might be called satisfactory. Williams of Clifton goes so far as to say, "not a single definite cure can be instanced unless one of Herman's cases may be so regarded." But even if a score or so of "cures could be cited, the sources of fallacy are so numerous that little weight would attach to them in the face of the overwhelming prepondence of negative results. In fact, every new specific for cancer says Williams has had no difficulty in justifying itself by far more convincing crops of "cures" than any that has been adduced on behalf of castration.

I should not have alluded at such length to this mischievous meddlesomeness had it not been that the mutilation undergone for that and other purposes has been somewhat too frequently resorted to on this side of the Atlantic, where ovaries bid fair to be considered, ere long, useless and troublesome appendages to be got out of the way.

While I am speaking of cancer in different parts of the body, I am sure the minds of many of you travel, not to those more formidable affections of organs hidden in the interior of our economy which can be visited only by a limited and expert few, but to that more tangible form of the disease which so often afflicts the female breast. As it concerns the well-being of the mothers of our race, I shall deal with it at some length.

And first as to diagnosis.—It is at the earliest moment that an examination of the breast is most valuable, and it is then it should be most thorough. As inspection sometimes conveys the earliest and sometimes the only information, the whole chest should be freely uncovered, so that

both breasts may be readily compared. The patient should stand or sit on a stool or chair without a back, so that the examiner may stand behind her permitting the educated palmar surfaces of the fingers, not their extremities, to impinge upon the parts to be examined. Both hands should be used in the examination, one to support the breast if necessary. But the examination is not complete until the patient is afterwards examined in a recumbent position, the examiner being, at will, at the patient's head or at either side. These are elementary suggestions but they are too often neglected.

A few words as to the mode of operating, the manner of which, as generally practised, has always appeared to me to be, in many respects, faulty. I am free to confess that for the first twenty-five years of my professional life, although I followed always the most recent text-book, I was not satisfied with my own way of operating nor with that of others. Having before my mind the instructions of surgical writers to cut and dissect parallel with the muscular fibres, the knife was used too freely—almost exclusively—and a doubt often remained with me as to the sufficiency of my dissection on the one hand, and as to the needlessly extensive mutilation on the other. Gradually I learned to do less with the knife and more with the finger in the work of separation—and with greater satisfaction. Although sanctioned by very eminent authority, I could not regard the early separation of the skin from the subjacent mammary gland as a wise procedure. And here let me observe that an error has long been indulged in as to the form and attachments of the mammary gland. Anatomical works often describe the female breast much in this fashion : " Two hemi spherical eminences, nearly circular, flattened, or slightly concave, on the posterior surface, convex on the anterior aspect." The female breast is not like an inverted saucer, nor a shell bounded by the surface of a sphere. It sometimes sends off cusps above, below, and to the axillary region ; sometimes to and across the sternum ; sometimes even to its fellow on the opposite side. The breast gland, aptly called by Dennis a cutaneous subaceous gland, is sometimes connected most closely with the skin, through fattty tissues of varying thickness.

To ascertain the form and extent of the mammary gland my first incision—usually at the most dependent part of the breast—is down to, and below the gland. I must see, and feel, the outer margin of the gland and then separate it from the subjacent pectoral with my finger not with my knife and thus throughout. If the separation takes place easily I am satisfied the disease has not extended to the muscle beneath and do not remove it.

But when there is the slightest suspicion of adhension and the large pectoral is to be removed, how should this be accomplished? Not by separating it at the wide circumference of its broad, fleshy basal attachments to ribs, sternum and clavicle, but at its narrower tendinous attachment to the humerus. By turning forward the now liberated muscle, its freedom from or adhesion to the pectoralis minor may be established, and the preservation or removal of the latter follow.

When lagre quantities of skin and muscle are removed leaving the ribs with the breast glands to a large extent uncovered, skin grafting may be sometimes resorted to with advantage, but when? I share the opinion of Le Dentu that it is better to wait till the wound had begun to granulate and had contracted somewhat, and to have recourse to Thiersch's method at a later period than is often practised.

It is not advisable to go beyond the mammary gland when there is no evidence of the disease outside of it. My practice, notwithstanding weighty opinion to the contrary, is invariably to confine myself to the mammary gland, when it alone is diseased, and to the elliptoid integument to be removed. I am confirmed in that practice by having noticed that when the disease reappears it is usually in the cicatrix, and rarely in the axilla. The supply of lymphatics leading to the axilla is doubtless abundant, but the lymphatics above and beneath one mammary gland anastomose freely across the sternum with those of the opposite side—yet it does not usually occur to the surgeon to remove both breats when one only is affected. Besides, removal of the axillary glands adds greatly to the patient's discomfort and to her risks, and is, I contend, in the vast majority of cases of early cancer of the breast unnecessary.

To my mind there is no more reason to remove the axillary glands when not diseased, than there is to remove the network of lymphtic glands which encircle the chest in all directions and directly find their way even to the thoracic duct. I ventured to so express myself in Washington several years ago, and I have not since found it necessary to modify the views I then gave utterance to.

But should the disease again show itself, what then? As I am firmly of the opinion that it is a reappearance of the disease, a returning or coming again into view of what has been removed merely from sight and apprehension but not thoroughly and entirely, I repeat the excision as thoroughly as possible, once, twice, thrice or oftener—as often indeed, as any appearance of the disease is visible, or as the anatomical relations of the parts will continue to permit. In this way I have had the satisfaction of being able to obtain final success after many efforts. But this success it must be admitted is only occasional; it is sufficient, however,

to encourage the surgeon to repeat his efforts even if frequent failure almost forces him to look at any effort on his part as to that of which there is but little hope.

In conclusion, Mr. President and Gentlemen, it may appear to many of you that I have stated nothing which could not have been said by any of my listeners, but when I was honoured with the invitation to address you to-day, it occurred to me that it might possibly interest you to view a few creatures in a disease which is attracting an unprecendently large share of attention through the optics of one, who, during years not a few, has had exceptional facilities for clinical observation.

ADDRESS AT THE CLOSING MEETING OF THE MEDICO-CHIRURGICAL SOCIETY, OTTAWA.

By SIR JAMES GRANT, M.D., K.C.M.G., Honorary President.

IN the first place I congratulate you on the widely diversified work which has been accomplished during the winter session of this Society. At the closing exercises, I desire to thank you for the opportunity of reviewing some lines of action, at home and abroad with reference to the Science of Medicine,

Registration of Nurses. A move in this direction is being made by the Royal British Nurses Association, and the Irish Nurses Association, together with several independent leagues of nurses warmly supporting the registration movement. As the public have not the knowledge to discriminate the value of certificates, it is well their interests should be guarded as far as possible. Under such circumstances it would be a step in the right direction, to have the system of registration carried into operation in Canada. The whole question, however, is now under the consideration of the Medico-Political Committee of the British Medical Association, which will be an object lesson on this side of the Atlantic. In the training and work of our Canadian nurses, we see much of hope and promise. The field of labor is now widening and the quality of thoroughness will always command respect and support.

School Hygiene. The International Congress of School Hygiene recently held at Nuremberg was represented by nearly every European Country. Buildings, Furniture, the Hygiene of the Boarding School, the Physiology and Psychology of Education, the training in Hygiene for Teachers and Scholars, Physical Education, Contagious Diseases, Home and School Life These various subjects were of great importance, and the time has nearly arrived when schools and their inmates should be

systematically inspected by medical men which would contribute greatly to the comfort of the parents and the prolongation of life.

Cancer Research in America. For fully four years the worker's in the laboratory of Dr. Roswell Park, Buffalo, have been engaged in cancer research, pathological, chemical and bacteriological investigations are in progress, in correlation with each other. Dr. Park, makes the broad statement that there is not a practising physician in the United States, who has more than a rudimentary knowledge of the subject. Professor Calkins of Columbia University, consulting biologist, is of opinion that the cell inclusions in carcinoma, are phases of an organism, after the most careful investigation, he favors the idea, that the cell inclusions are not secretions, but phases of an organism belonging to the group protozoa.

In London, Henry Morris and Dr. Bashford, Director Cancer Research Fund are doing able work, in the line of investigation, and we look forward to good and practical results.

The Pancreas. This gland has recently come into considerable prominence as to its morbid conditions and clinical symptoms, through experiments on animals, and the surgery of the abdomen. Much credit is due to Dr. Mayo Robson, as to the distinctive features of the various pathological affections of the Pancreas. Pawlow has also noted most carefully the conditions under which the pancreas secretes the ferments, which perform so important a part in the digestive process Starling and Bayliss have also ably defined the fact, that "secretion," obtained by them from the intestinal mucous membrane, stimulates the pancreatic juice, when introduced into the circulation. The diagnosis of pancreatic diseases, is extremely difficult, owing to the fact, pointed out by Mayo Robson, that the vicarious power possessed by other organs, to perform the functions of the pancreas, cloaks symptoms, which otherwise might be of great diagnostic value. Much interest has been attracted to the "Pancreatic reaction," discovered by Dr. Cammidge, depending upon the presence of *Glycerine in the urine*, defined as in close association with, the fat necrosis, characteristic of pancreatic disease. Mayo Robson in the many cases under observation, has only found a few, in which glycosuria was present, and he has pointed out, that it is only when the entire gland is destroyed, as in malignant disease, that diabetes supervenes. Until recently this department of pathology has been a comparative blank.

The Laryngoscope. Senor Manuel Gracia the discover of the laryngoscopes, entered his hundreth year, March 17th, 1904. Born at Madrid, Spain, 1805. For a time he was engaged on the stage, which he was obliged to abandon as his physique proved inadequate to the strain of

the stage, his first appearance being in New York. For a time he was engaged in teaching singing in Paris, where he gained quite a reputation and was appointed Professor in the Conservatory. Since 1850, he has resided in London, England, where he trained many of the world renowned singers. In 1854 the idea of the reflection of two mirrors struck him, by which he saw the glottis for the first time, wide open, before him, and trachea fully exposed. In 1855 Gracia presented a paper to The Royal Society of London, entitled "Physiological observations on the Human Voice." Bobington devised an apparatus, somewhat like that of Gracia twenty years previous, but he never examined his own larynx, as Gracia did. The working out in extenso, the physiological and practical application of the instrument, is due to Czeomeek of Buda-Pesth, and now world wide in its application.

The next centenarian to whom I shall refer briefly is Senator David Wark, who, in February last, passed the hundreth milestone of his life's journey, and has always enjoyed excellent health, never a day in bed from illness, since infancy. Had a farm at Richibucto, Kent, N. B., two miles from his place of business, to and from which he generally walked daily. Has not tasted spirits for seventy-five years, and previous to that date, only a little wine, which he abandoned. Never used tobacco. Irish descent and his grandparents brought the system of eating oatmeal from Ireland. Senator Wark makes the following statement:—

"For breakfast, I take porridge, which is a great luxury, one cup "of tea and a small piece of bread. For dinner, I take a small piece of "fowl or fish, a potato or two, and a small cup of tea. For supper, I "take a cup of tea, and a piece of bread." 'I sponge the body regularly "'and keep the bowels free.' 'I usually sleep soundly five hours each "night, and generally have a short nap after each meal. I have been "sixty-one years in political life, and have lived in the reign of George "the 3rd, George the 4th, William the 4th, Queen Victoria, and King "Edward the VII. My entire life, has led me to the following conclu-"sions; that people eat too much; smoke too much and use too many "beverages, which should be carefully guarded against, in order to en-"joy a good old age."

Dr. R. A. Rudolph, of the Toronto Light Horse, met with a serious accident. He was riding a spirited horse, and, colliding with a trooper of the R. C. D., was thrown, sustaining a concussion similar to Col. Otter's recent experience. He was cared for in a private house by Dr. McPherson. He is doing well and will soon be around again.

DR. OLIVER WENDELL HOLMES, PHYSICIAN AND MAN OF LETTERS.*

By F. R. ECCLES, M.B., F.R.C.S.,
Professor of Gynæcology in the Western University, London.

I had thought it would be interesting to some of you at least and I hope to all, to deviate from the old beaten path, of taking up some pathological condition, and select some subject allied to medicine or embracing it, or some life associated with medicine, which might with profit be introduced at one or two meetings during the year. We read of Gregory's powder, Basham's mixture, Dover's powder, Pott's disease, Dupuytren's splint, Chopart's operation. Then we know, or read of medical men who have achieved some prominence in the arts, in poetry and literature—such as the author of "Rab and his friends," John Keats, Weir Mitchell, the late Sir Henry Thompson, and our own Dr. Drummond. A history (minus the living) of either of those personages would perhaps embrace something historic in medicine. To some this may appear as an inovation, and a tendency to the conversion of our time honored association into an historic club.

Some time ago, I was much interested in reading some of Dr. Oliver Wendell Holmes, medical essays and noted the strong vigorous manner in which he asserted his opinion in reference to any medical question, and especially, on the contagiousness of puerperal fever. A generation ago, he would be remembered as a lecturer on anatomy, physiology, microscopy and other medical subjects. By this generation he is remembered more by his literary ability. But in his early days he was a practitioner and teacher of medicine first, and exercised these literary gifts, which have made his name famous, as second to his great calling. In his early days, as a practitioner and teacher, he supplemented his income by frequent lectures, at night, often going many miles in the country and returning in the small hours of the morning. This he told me robbed him of his sleep and it grew tiresome, so he took to writing which was much more pleasant and agreeable and paid him better.

He continued to lecture on anatomy from his appointment till 1882, when owing to advancing years, and health more or less broken up by asthma (his old bête noir) and bronchitis, he resigned his chair. Besides anatomy he lectured on physiology, microscopy and histology, and when once questioned as to what chair he occupied in the medical college he humorously replied, he occupied a settee.

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* An Address delivered May 9th, before the London Medical Association at its rooms, in the Y.M.C.A. Building.

He was, as every reader of his works would expect, an entertaining lecturer. As England's great Chancellor of the Exchequer could take the dry details and figures of his budget speech and present them in such a manner as to entertain and interest his auditors for hours, so Oliver W. Holmes, presented to the anatomy class the driest of subjects, anatomy, in such a manner as not only to make it instructive and entertaining, but, added to this, a facility of remembrance.

Of Puritan stock—of strong moral character, as well as strong convictions, it is not surprising he broke away to a certain extent from the religious influences and the dogmatic teaching of the old Puritans. His mind was cast in a more liberal mould. In all matters of conscientious convictions in reference to his professional duties and professional responsibilities, he brought all the faculties of a well trained mind to defend his position. The profession, yea the world, is indebted to him for the strong and ever combative way in which he assailed the leading medical lights, who sought to put the hands of the clock backwards and to belittle the investigations, researches and opinions of Dr. Holmes on the contagiousness of puerperal fever. I refer to Dr. Meigs and Dr. Hodge two of the greatest obstetricians of the day and professors in the great schools of Philadelphia, Dr Hodge, Professor of Obstetrics in the University of Pennsylvania and Dr. Meigs of Obstetrics and diseases of women and children, in Jefferson Medical College; men known to the present generation by their writings and works. Being professors in these great schools, they spoke with authority, and took ground against the doctrine of the contagiousness of puerperal fever maintained by Holmes, in an able paper in 1834. This paper had its origin in a discussion that arose in a medical association like our own, concerning the death of a medical man, who made a postmortem examination, of the body of a patient who died of puerperal fever and who himself became infected and died within a week, but who had in the meantime attended several women in confinement, all of whom were attacked by puerperal fever. At a subsequent meeting the paper appeared, but not until Dr. Holmes had collected a large amount of information, by looking up records, and by enquiries from leading practitioners at home and abroad, as evidence concerning the view he held on the contagiousness of puerperal fever.

The introductory lecture of Dr. Hodge, in October 1852 was on the noncontagious character of puerperal fever. Let me give you a quotation from it, "The result of the whole discussion will, I trust, serve not only to exalt your views of the value and dignity of our profession, but to divest your minds of the overpowering dread that you can ever

become especially to women, under the extremely interesting circumstances of gestation and parturition, the minister of evil; that you can ever convey, in any possible manner, a horrible virus, so destructive in its effects, and so mysterious in its operations as that attributed to puerperal fever." *Prof. Hodge, 1852.*

Professor Meigs in the same year 1852 said "I prefer to attribute them to accident or Providence, of which I can form a conception, rather than a contagion of which I cannot form any clear idea, at least as to this particular malady." And then in 1854 reasserting the same opinion and belief, sowing the seed to a large class of students of what we now know would be highly criminal in any great teacher in medicine.

In Dr. Ramsbotham's Obstetric Medicine and Surgery, 2nd. edition 1844 in reference to this subject he says "The best paper in any language with which I am acquainted written to prove the highly contagious nature of puerperal peritonitis is by Dr. Oliver Holmes, and published in the New England quarterly *Journal of Medicine and Surgery*, Boston, April 1842. It is a masterly performance and well worth perusal by any sceptics on the subject.

An expression of opinion like this from one of the leading Obstetricians of England at that day, ought to furnish food for the two leading teachers of the art, in the great medical schools of Philadelphia, Drs. Meigs and Hodge. Personally affable and courteous, Dr. Holmes would not bring his great power of satire and invective into action except where great principles were involved, and doctrines were to be defended. He had no use for negative evidence, where human life was at stake. "Children that walk in calico, before open fires are not always burned to death; the instance to the contrary may be worth recording; but by no means, if they are to be used as arguments against woollen frocks and high fenders." The smooth satire of that sentence, is more powerful than pages of argument.

Then listen to his pleading on behalf of the poor woman exposed to the hidden danger." "The woman about to become a mother, or with her new born infant upon her bosom should be the subject of trembling care and sympathy wherever she bears her tender burden, or stretches her aching limbs. The very outcast of the street has pity on her sister in degradation when the seal of promised maternity is impressed upon her. The remorseless vengeance of the law, brought down upon its victim, by a machinery as sure as destiny, is arrested in its fall at a word which reveals her transient claim for mercy. The solemn prayer of the liturgy singles out her sorrows. from the multiplied trials of life to

plead for her in the hour of peril. God forbid that any member of the profession to which she trusts her life, doubly precious at that eventful period, should hazard it negligently, unadvisedly, or selfishly."

When Dr. Meigs, however used disparaging language, and sought thus to dispose of Dr. Holmes claim to be listened to; he spoke of "the very young gentleman" "the jejune and fizenless dreaming of sophomore writers" etc. If Dr. Holmes had chosen to use his weapons of invective and irony Dr. Meigs would have gone down before his spear and lance. He however replied with gentle satire. "One unpalatable expression" he says "I suppose the laws of construction oblige me to appropriate to myself, as many rewards for a certain amount of labor bestowed on the investigation of a very important question of evidence and a statement of my own practical conclusions. I take no offence, and attempt no retort. No man makes a quarrel with me over the counterpane, that covers a mother with her new born infant at her breast. There is no epithet in the vocabulary of slight and sarcasum that can reach my personal sensibilities in such a controversy. Only just so far as a disrespectful phrase may turn the student aside from the examination of the evidence, by discrediting or dishonoring the witness, does it call for any word of notice."

Then referring to the many testimonials of his essay at home and abroad, and the compendious eulogy of Ramsbotham "as being all that self love could ask," he says, "These testimonies half forgotten, until this circumstance recalled them, are dragged into the light, not in a paroxysm of vanity, but to show there may be food for thought in the small pamphlet, which the Philadelphia Teacher treats so lightly." "They were at least unsought for, and would never have been proclaimed but for the sake of securing the privilege of a decent and unprejudiced hearing," and "if there is any appetite for facts so craving as to be yet unappeased, more can be obtained." "Why a grand jury should not bring in a bill against a physician, who switches off a score of women one after another along the private track, when he knows there is a black gulf at the end of it, down which they are to plunge, while the great highway is clear, is more than I can answer."

A few of these extracts reveal the smoothness and vigor of his pen in his young days, which was more or less characteristic of his writings down to the last. Crossing the ocean in 1833 an obscure medical student to pursue his studies abroad, was somewhat different from his second crossing in 1886. Then 77 years of age the Autocrat of the Breakfast Table was known by name and reputation wherever the Englisn language was spoken. What a contrast and change in the

world's history and progress spanned by these 53 years. The only railroad in England was from Manchester to Liverpool. The locomotion was entirely by stage coach, with this compensation, that one could better take in the charms of English scenery from the top of the coach in those days travelling 10 or 12 miles an hour, than from the window of a railway train travelling 50 or 60 miles an hour as at the present time. In his reminiscences of the journey made in 1886, he gave expression to the intense pleasure produced by the revisiting of the scenes of his early manhood; he dilates on the fascination of Edinburgh, the singular beauties of that modern Athens, the home, for a time, of Scott and the oft repeated visits of Burns. Here he was the guest of Professor Brown, a near relative of Dr. John Brown, whose son dined with him and the hand of whose sister he had the pleasure of grasping. To one of Oliver Wendell Holmes' lovable nature this was the next best thing, now that he has gone, to greeting the author of "Rab and his friends," himself.

Everywhere Dr. Holmes was received with unbounded enthusiasm. The two great English universities, Oxford and Cambridge bestowed the honorary degree of LL D. on him and the great Scotch University of Edinburgh the degree of D. C. L. The convocations were noisy, like some of ours; some voices cried "speech, speech." "Did he come in the "One Horse Shay?"" At Cambridge in combination-room, St. John's College, where Dr. Holmes breakfasted with about 50 gentlemen, one of the gentlemen read a poem, a few verses of greeting to Dr. Holmes, the last verse of which was:

"On us, O son of England's greatest daughter,
A kindly word from heart and tongue bestow,
Then chase the sunsets o'er the western water,
And bear our blessings with you as you go."

Honors fell thick and fast on our professional brother, and such as come to few in a life time. One perpetual round of entertainment and social engagements, from the time he landed until he bade adieu to Old England; breakfasts, luncheons, dinners, teas, receptions, etc. As he quaintly puts it, our arrival pulled the strings of the social shower bath. Before he quite recovered from the fatigue of the voyage, he received his "baptism of fire" in that long conflict of social functions, at Lady Harcourt's where he dined with 20 celebrities, following which was a grand reception. At some social function or other he met the celebrities of England. Royal personages, poets, philosophers, scientists, statesmen, dramatists, artists, church dignitaries, and the celebrated members of our own profession; all delighted to do honor to the author of the "Breakfast Table" series.

Sir Henry Thomson, just lately passed away, great artist, more than amateur astronomer, but greatest as a genito-urinary surgeon entertained him at dinner, where he met Gladstone and Browning. He spent about a week in that charming part of England, the Stratford-on-Avon district, visiting Great Malvern and from the top of which, about 1000 feet in height, you get a great view of English scenery, tracing the windings of the Avon. Here he met the late Lawson Tait, and it was shortly after he had 139 consecutive cases of abdominal section without a death. In the land of Shakespeare and in the immediate neighborhood of his youthful wanderings, this thought came to Dr. Holmes: "Which would give the most satisfaction to a thoroughly humane and unselfish being of cultivated intelligence and lively sensibilities; to have written all the plays which Shakespeare has left as an inheritance for mankind, or to have snatched from the jaws of death, more than a hundred fellow creatures." Such a self-proposed question unfolds to us the altruistic nature of the man, and the exalted views he had of the sacredness of human life and creates a great admiration of his impassionate appeal on behalf of woman approaching maternity.

Dr. Holmes belonged to a famous coterie of New England writers of whom he was "the last leaf" on the old tree. In reference to that poem He says, "When, in my exulting immaturity, I wrote the lines not unknown to the reading public under the name of "The last leaf" I spoke of the possibility that I myself might linger on the old bough, until the buds and blossoms, of a new spring were opening and spreading all around me" Let me quote one verse:

"And if I should live to be,
The last leaf upon the tree.
In the spring,
Let them smile as I do now,
At the old forsaken bough,
Where I cling."

Emerson, Lowell, Longfellow, Whittier, Holmes—what a quintette! always, as far as I know, warm friends. Whilst the lives of the other four were largely if not wholly devoted to literature, or closly connected with literary pursuits, Holmes practiced, for a time, a laborious profession, taught anatomy, physiology, and allied subjects, for nearly 35 years in Harvard Medical School, at the same time he accomplished the larger part of his literary work. His was a strong personality and so carried one along with him in his writings as to make one feel a personal loss in his death. His writings strengthen the moral fibre of man's being; are perhaps optimistic, but wholesome and eminently character-

istic of a high ideal of manhood. His medical papers were few, full of vigor and indicative of great research and careful preparation. His paper on puerperal fever, should give him a place among the immortals of our profession.

On the 29th of March, 1893, the year before Dr. Holmes died, a medical friend (a namesake of his) and I called on him at his house on Beacon Street. We were guests at the Palmer House, and sent a messenger with a note to Dr. Oliver W. Holmes expressing our desire to call upon him at his convenience. The messenger returned in a short time with a note stating that he would be glad to see us any day after three. We went that day. It was a murky afternoon, with heavy, almost foggy, atmosphere. We gave our cards to the maid, when we were ushered into a small reception room furnished in white. It might be taken for a library (not a working one); table, chairs, wainscotting, little bookcase here and there, all in white, the books within also bound in white, the whole so suggestive and emblematical, on this occasion, of the white flower of a blameless life. The fortunate engagement of the autocrat with a previous caller gave us the opportunity of an observant seat in the cosy *recherche* little reception room. We saw coming down the stairs the caller, a portly dignified gentleman, whom the autocrat afterwards spoke of as the friend of many years.

As the visitor descended the stone steps to the street, the maid closed the door after him and asked us to walk up stairs, at the top of which we were greeted by Dr. Holmes in the most cordial manner, and were taken into his working library. A bright cheerful fire in a large old-fashioned fireplace, with a large easy chair on each side of it, was very inviting that chilly, murky afternoon. The room was in great part filled with books from the floor to the ceiling. On the wall directly opposite to the large bay window a large instantaneous photograph of Dr. Holmes, John Bright and others marching in procession to receive the degree of D.C.L, which Dr. Holmes showed us with no little pride. On each side of the photograph were the two horses that he saw win the Derby—"Plenipotentiary," in 1834, painted by Herring, the celebrated painter of hunting scenes, on the right, and a coloured portrait of "Ormonde," with Archer on his back, 1886, on the left. It was thus just 52 years between his first and second Derby Day. From the intensity and vivacity of his conversation about the Derby, I should judge he was a lover of horse-flesh, but not by any means a sport.

He interrogated my friend, Dr. Holmes, of Chatham, as regards his ancestry and the origin of his name, and gave him some archæological information about his name that interested us both. The original Saxon

word was Holme, which meant "a meadow surrounded with brooks," the final letter "s," he said, was often added to the English names. He talked much about both journeys to England, especially of the latter, and of the whole-hearted and unbounded hospitality of so many dear English friends, not confined to his *confreres* in the profession of medicine and literature.

He gave us an account of his visit to Lord Tennyson at Farringford, Isle of Wight. He walked about with the poet over his small estate, admired the green sward, rested under overshadowing trees—Lord Tennyson's just pride. Dr. Holmes said with trees, flowers and lawns, as well as the beautiful sleek cattle, I was quite familiar and at home in any conversation about these, so I talked about trees, about cattle and about flowers; but I made a mistake, I should have asked him to recite one of his poems.

I told Dr. Holmes that I had just purchased from Houghton, Mifflin & Co. the library edition of his work, just published. Hoping to secure his autograph I took one of the volumes with me, and left it down in the little white reception room. He had not seen this edition and was anxious to do so, and requested me to bring the book up. I brought up the only volume I took with me, and he seemed disappointed that I had not brought them all, and said it would have given him pleasure to have written in every one. But when I saw that his eyes were somewhat weak and shaded by the green cover it would have been an imposition on kindness to ask his autograph in thirteen volumes. He spent some time in selecting his pen; the one selected had a large natural feather handle.

"You tell your friends that I wrote with my favourite pen mounted in what?" he said. There was silence for a few seconds, the painfulness of which I broke by saying, "in our country we would say that was a turkey cock's feather." "Not so ignoble a bird," with a sort of explosive energy, was the prompt and incisive reply, and indicated the loving patriotism of the man, as well as his exalted appreciation of the emblem of his country. Sitting at his large flat-topped writing table, with his back to the bay window, he wrote in the book. My friend and I, at Dr. Holmes' request drew back the curtains so as to let in as much light as possible, and at the same time we looked out and over the Charles River at the back It was this outlook that suggested the poem, "My Aviary."

We had discussed our time limit before arriving at the house, and now found we had far exceeded that limit, and got up to leave, but we were so cordially asked to remain longer, and in such a manner as to

make one feel that the four score and four years was not wearied, and that our stay was by no means an intrusion. At every turn of the conversation he manifested quick and lively interest, with now and then a vein of unconscious humor, and at no time manifesting any indications of senility; but rather of vigorous mind, and active non-treacherous memory. He spoke about his asthma and bronchitis; his regular and careful habits. The temperature of the room was always brought up to the same point every day before he rose. He watched the weather vane: if the wind was in the west, he walked east and rode back; if in the east, he walked west and rode back. But the bane of his life at this time was the number that wanted to talk to him either in the cars or on the street. Shaking the warm slight hand we bade him goodbye at the top of the stairs, where he greeted us as we ascended. The memory of that afternoon is still fresh, and lingers with this author of sweet memories as I write this.

Dr. Holmes was born in 1809, in the same year as Gladstone, Tennyson, Lord Houghton, Darwin, Lincoln and Cardinal Newman. He said, "It seems like an honour to have come into the world in such company. Men born in the same year seem to watch each other, especially as the sands of life begin to run low, as we can imagine so many damaged hour glasses to keep an eye on each other. Women, of course, never know who are their contemporaries."

Let us learn a practical lesson, how possible it is by the exercise of due care to prolong our lives. The regulation of habits, the systematic arrangement of work and recreation, and the early and complete discipline of the mind in relation to worry ought to have its reward in the longevity of the members of our profession. Dr. Holmes gave his last lecture on Nov. 28th, 1882, reviewing his 35 years' connection with Harvard Medical School. It "was the occasion of an affecting leave-taking." "It was a delightful address, full of happy sketches of the luminaries of medicine whom he had known," and reminds one somewhat of the late Dr. Watson's leave-taking of his class at King's College, Old London.

He died in his working library where I had the interview with him. "He was sitting in a chair, with his head braced on the arm of another chair and it was thought he would be more comfortable if he could be moved into his favorite arm chair, an old fashioned piece of furniture, with a winged back. Accordingly his son supported him to the big chair, and as the poet sank into it he leaned his head on one of the side rests and said "That is better, thank you." This was his last utterance.

A writer of his obituary said " He continued writing to the end and neither age, nor infirmity, nor bereavement, could dim the brightness of his spiritual outlook, or stiffen his joints." " He retained his cheery optimism to the last, and obeyed the summons for which he had long held himself in readiness, writing Finis in his book of life, probably with a sign of relief." " To few men can it have been given to lead a life so completely in accordance with his tastes, as was the life of Dr. Oliver Wendell Holmes. He never felt the bitterness of the struggle for bread; he was most happy in his family relations; he had troops of friends among the most distinguished of their times; he was beloved by thousands, who had never seen his face or heard his voice. To him more perhaps than to any other writer, the fairy god mother of literature, of Macaulay's exquisite lines might have said; " And if for some I keep a nobler place, I keep for none a happier than for thee."

Ellwood Place, London.

HISTORY OF A CASE OF INTESTINAL PERFORATION IN TYPHOID. OPERATION, AND DEATH THIRTY-ONE DAYS AFTER OPERATION FROM ABSCESS IF THE PELVIS.*

By NEIL J. MACLEAN, M.D., Winnipeg. Man.

MR. PRESIDENT AND GENTLEMEN,—The case that I have been asked to report to this society is one of perforation of the bowel during an attack of typhoid fever and which presents several points of interest.

The patient was a school boy, nine years old, whom I first saw on September 17th, presenting the usual symptoms of the onset of an attack of enteric fever. The disease ran a favorable course, the temperature ranging between 100 and 102.5 degrees F., the only complication being a slight tympanites. At 5 a.m. on the morning of October 5th, the nurse reported that the patient had been suddenly seized with a severe pain in the abdomen and that he cried out to her that he was dying. A sudden and serious change had come over the patient in a very short space of time. He was restless, and the face had an anxious, pinched expression. The pulse, which previously had not exceeded 100 beats per minute, was now 120. The abdominal wall was extremely rigid. I diagnosed intestinal perforation and called Dr. Blanchard in consultation. Operation was decided upon and performed at 12 a.m., seven hours after the perforation had occurred.

The operation lasted one hour and was performed as follows : An oblique incision four inches long was made external to the right semilunar line. Free gas and dirty fluid was found on opening the peritoneal

* Read before the Manitoba Medical Society, December, 1903.

cavity. The Ilio-caecal junction was found and drawn out of the abdomen. Immediately a perforation was found two or three lines in diameter and about two inches from the caecum. This was inverted and closed with three or four Lambert sutures. A second perforation was found a few inches from the first and treated similarly. Two other thin and discolored spots were found, apparently in the preperforative stage and these were buried in the wall of the intestine by a few Lambert stitches. The ilium having been explored for several feet from the caecum for further perforation and none being observed the remaining bowel was drawn outside the abdomen and washed by a constant stream of warm normal saline solution and wrapped in warm towels. The abdominal and pelvic cavities were next flushed and sponged with the saline solution, the bowel returned within the abdomen a glass drainage tube inserted into the bottom of the pelvis and out of the lower angle of the wound and the upper part of the wound closed.

The case progressed favorably, but developed a parotiditis which suppurated and was drained on October 18th. The temperature, however, continued between 99 and 100 degrees and patient died November 5th.

Post mortem.—A small collection of pus, partly walled off by a slight exudate, was found in the pelvis. The sutured ulcers were well healed. No fresh perforations found.

Three points of interest.—1. The development of a suppurating parotiditis after the operation. 2. Pus in the pelvis. This may have developed slowly from the original infection of the peritoneum or from a secondary infection. 3. The absence of exudate, only the slightest amount being found about the abscess. This is said to be peculiar in typhoid.

Notes from the Literature.

Senn's Practical Surgery.—Kussmaul was the first to perform laparotomy, excise, and sature a perforating typhoid ulcer. The operation was performed October, 1885. Lucke reports a case in which he performed laparotomy for the same indication October 22nd, 1885. A large perforation was found excised and the edges sutured. The patient died in seven hours. In the following three years the operation was performed by Bontecou, Bartlett, and T. G. Morton with no recoveries. The first successful result was obtained by Van Hook. J. Price has recently reported three consecutive operations with as many recoveries, a surgical feat which it will be difficult to duplicate.

Treatment of the perforation would be in the following order according to the condition of the patient and the condition of the bowel.

First, suture; second, excision; third, artificial anus (Greig Smith Abdominal Surgery). The last of these indications would now apparently become first according to recent reports from the Johns Hopkins Hospital and reports from the Vienna Clinic recommend leaving the perforation open as a natural drain

The Year Book of Medicine and Surgery for 1903 records two cases. One of sature, lavage and closure of the abdomen without drainage, recovery; and one with suture of the perforation and drainage of the abdomen during the course of a severe attack of typhoid with recovery.

Keen (Surgical Complications and Sequela of Typhoid Fever) gives the following interesting statistics, tabulated by Fitz:—

Frequency of Perforation, In 4,680 cases, 6.58 per cent.

Age at which Perforation Occurs. The largest number in 192 cases occurred between the ages of 20 and 30 years, 77, or 39.8 per cent., and less as you ascend or descend the scale of life.

As this is nearly in direct ratio to the number of cases afflicted with typhoid at this age we cannot infer from this that a patient would be more predisposed to perforation at one age than at another.

Date of Occurrence of Perforation. The largest percentage (24.8 per cent. in 193 cases) occurred during the third week. Four occurred during the first week and one as late as the 16th week.

Seat of Perforation. (167 cases, Fitz).

Ilium, 81.4 per cent.

Large intestine, 12.9 per cent.

The Appendix Vermiformis, Meckel's Diverticulum, and the Jejunum were also found perforated.

Number of Perforations. One hundred and sixty-seven cases Usually one, but 25 to 30 were found in two cases.

Perforation does not bear any direct ratio to the gravity of the attack. "In about one fourth of 2,000 cases the course of the disease was distinctly stated to be mild." (Fitz).

One point of interest in the diagnosis of perforation, but which may be present from other complications, viz., a leucocytosis. According to Thayer there is no increase in the proportion of W. B. cells during typhoid, but rather a slight diminution. Cabot, however, found a leucocytosis in four uncomplicated cases. A leucocytosis may be present from complications, other than perforation, as phlebitis, otitis media and abscess.

CURRENT MEDICAL LITERATURE

MEDICINE.

Under the charge of A. J. MACKENZIE, B.A., M.B., Toronto.

EXODIN, A NEW PURGATIVE.

IN the *New England Medical Monthly*, there is a report taken from the Gottingen Medical Clinic by Ebstein on 'Exodin' the diacetyl rufigallic—acid—tetramethyl ether, a yellow powder melting at 180° to 190° C, odorless, tasteless, insoluble in water and with difficulty dissolved in alcohol.

It forms a useful and agreeable evacuant in doses of 7½ grains, active in 8 to 12 hours, without nausea or eructations, causing two to four movements which are unattended by straining. From an extended experience Ebstein recommends it strongly as being free from any of the objections which attach to many of the newer as well as of the older purgatives.

THE OATS CURE IN SEVERE CASES OF DIABETES MELLITUS.

The *Postgraduate* for May, reproduces an article from the *Berliner Klinische Wochenschrift*, by Von Noorden on a new dietetic treatment of Diabetes Mellitus It is pretty well conceded that a diet freed entirely from carbo-hydrates is unsuitable in most cases of this disease, but the writer found in the 100 cases treated, that there were very marked individual variations, which made it difficult to formulate laws for treatment, and which perhaps accounts for the fact that many forms of diet have been rewarded by success in one case though it could never be repeated in others.

The oats are prepared by boiling in water for a considerable length of time with a little salt and while boiling some egg-albumin is added; an average daily dose at the beginning would be 250 gm. oats, 100 gm. albumin, 300 gm. butter in the form of a soup, given every two hours, and the diet was completed by a little brandy, wine or strong coffee.

Case reports are given—one in which the sugar secretion in spite of ordinary diet precautions reached 50 gm. per day, with acetone values between 1½ and 2 gm. In this case by the third day of the oats diet

sugar was diminished and disappeared, return to ordinary diet showed temporary reappearance of sugar, but it disappeared permanently in a month. The patient was dismissed upon the following diet, which may be useful:—

Breakfast: Tea or coffee, 50 cc. of cream, 2 eggs in various forms.

Second breakfast: A cup of oatmeal, 20 gm. of the material prepared with 30 gm. of butter, 50 gm. of bacon and two yolks of egg.

Mid-day meal: No soup, 120 gm. prepared meats, plenty of green vegetables and salad, 50 gm, of potatoes, 25 gm. of cheese, coffee with two tablespoonfuls of cream.

Afternoon luncheon: Tea with two tablespoonfuls of cream, two yolks of egg.

At night: 80 gm. of prepared meat, plenty of green vegetables and salad dressed with oil, 50 gm. of potatoes, 25 gm. of cheese, butter

Every day Bodemann's aerated bread (gluten free from carbo-hydrates) and 100 gm. of "desaccharated fruit."

Every five days of this diet is to be followed by a "vegetable day." A daily ration of three-quarters of a bottle of light wine is permissible.

Ten cases out of the 100 are as favorable as this, which report from such a famous dietician makes the treatment well worth a trial.

Other cases are given in which the results were not so successful, one which was improved by occasional 'vegetable' days when as much as 150 gm of starch were given. No reason is adduced for the results obtained, but it is noted that in all cases taking the oats cure the nitrogen values of the urine decreased very markedly, proving a notable ingestion of albumen and explaining the increase in weight and strength that accompanied the treatment.

GERMS IN DRINKING WATER.

In the *Journal of the American Medical Association*, April 9th, 1904, there is an article by Dr. Vaughan, of Ann Arbor, which summarizes researches in this subject since 1888, as follows:—

(1) Of 709 samples of drinking water sent by health officers and other physicians to the hygenic laboratory of the University of Michigan between Oct. 1, 1888, and Dec. 31, 1903, 213, or 30 per cent. contained toxicogenic germs.

(2) Ten samples, or 1.4 per cent., contained no bacteria capable of growth at 38 C. Of these 10 samples, 4 were from deep springs, and 6 from the great lakes—4 from Lake Superior and 2 from Lake Huron.

(3) Waters that contain no germs capable of growth at 38 C. or higher could not cause disease.

(4) Waters that contain no toxicogenic germs are not condemned.

(5) Waters that contain as their only toxicogenic organism a typical colon bacillus are not condemned. By a typical colon bacillus we mean one which is non-motile, produces indol abundantly, produces acid in milk, coagulates milk within twenty-four hours, and evolves more or less gas from glucose and lactose cultures.

(6) Waters which contain as their only toxicogenic organism a typical proteus bacillus are not condemned. It must be remembered that other germs can not be excluded until after repeated plating of the cultures made from the heart's blood fails to show their presence.

(7) Waters that contain any member of the venenosus group or any such germ as we have marked doubtful in the table given are condemned.

(8) I have never found in drinking water a germ that responded to the Widal test.

(9) Sixteen years of experience with the bacteriological method of water analysis convinces me that the results given by it are in the majority of instances trustworthy.

ON A BACILLUS ISOLATED FROM WATER AND AGGLUTINATED BY HIGH DILUTIONS OF TYPHOID SERUM.

In the May issue of the *Journal of Medical Research* there is a contribution by Oskar Klotz, McGill University, describing a bacillus isolated from tap-water obtained in the township of St. Henri, and also from the region of a supposed pollution in the St. Fawrence. An examination showed that this bacillus, which he named as B. perturbans, bears a very marked resemblance to B. typhosus in size, morphology, staining reaction, growth on gelatine, agar and blood-serum, non-liquefaction of gelatine, etc., but differing in motility, growth on potato, formation of gas, etc. The agglutinating tests (*i.e.*, by human typhoid serum) showed an agglutination in dilution of 1 in 1550.

Tests with serum from rabbits, immunized with B. perturbans, showed differences from B. typhosus in the time of reaction.

On the whole, one would conclude that even where a positive result is obtained with relatively high dilutions of typhoid serum, it is unwise, not to say mistaken, to regard the reaction as absolutely specific.

PHYSICAL SIGNS OF PLEURAL EFFUSION.

In the *Journal of the American Medical Association*, May 28th, Professor Bridges discusses this subject, and calls attention to some of the more important ones, as follows: —

On inspecting the normal chest in others than the obese, it will be noticed that when the persons observed speak short words or syllables there is a distinct elevation of the intercostal spaces, seen most distinctly in the lower and wider spaces. If there is effusion bulging the spaces, this sign should be more plain, whereas in a solid tumor or consolidation of the lung it would not be so.

Litten's test is made by having the patient lie down with feet toward the light, sidelight being excluded, when it may be noticed that with each deep act of inspiration a narrow shadow, starting at the anterior axillary and seventh rib, descends obliquely forward to cross the seventh, eighth, and ninth ribs, and to recede with less distinctness during expiration, caused by the receding of the diaphragm from the chest wall. This is obliterated in case of effusion.

Heart displacement away from the affected side, vocal fermitus, percussion, and auscultation are also mentioned.

SURGERY.

Under the charge of H. A. BEATTY, M.D., M.R.C.S., Eng.
Chief Surgeon Canadian Pacific Railway, Ontario Division; Surgeon Toronto Western Hospital.

THE TREATMENT OF APPENDICITIS.

At the last meeting of the American Medical Association, at New Orleans, Ochsner, of Chicago, gave twelve rules for the treatment of appendicitis. These rules have received much praise, and are well worthy of careful consideration. They are as follows:—

1. The mortality in appendicitis results from the extension of infection from the appendix to the peritoneum or from metastatic infection from the same source.

2. This extension can be prevented by removing the appendix while the infectious material is still confined to this organ.

3. The distribution or extension of the infection is accomplished by the peristaltic action of the small intestines.

4. It is also accomplished by operation after the infectious material has extended beyond the appendix and before it has become circumscribed.

5. Peristalsis of the small intestine can be inhibited by prohibiting the use of every form of nourishment and cathartics by mouth and by employing gastric lavage in order to remove any substances of food or mucus from the stomach.

6. The patient can safely be nourished during the necessary period of time by means of nutrient enemata. Large enemata should never be

given, for they may cause the rupture of an abscess into the peritoneal cavity.

7. In case neither food nor cathartics are given from the beginning of the attack of acute appendicitis, and gastric lavage is employed, the mortality is reduced to an extremely low percentage.

8. In cases which have received some form of food and cathartics during the early portion of the attack, and are consequently suffering from a beginning diffuse peritonitis when they come under treatment, the mortality will be less than 4 per cent. if peristalsis is inhibited by the use of gastric lavage and the absolute prohibition of all forms of nourishment and cathartics by mouth.

9. In this manner very dangerous cases of acute appendicitis may be changed into relatively harmless cases of chronic appendicitis.

10. In my personal experience no case of acute appendicitis has died in which absolutely no food of any kind and no cathartics were given by mouth from the beginning of the attack.

11. The mortality following operations for chronic appendicitis is exceedingly low.

12. Were peristalsis inhibited in every case of acute appendicitis by the methods described above, absolute prohibition of food and cathartics by mouth and use of gastric lavage, appendectomy during any portion of the attack could be accomplished with much greater ease to the operator and correspondingly greater safety to the patient.

SURGICAL OBSERVATIONS IN THE PHILIPPINES.

In the *Journal of the American Medical Association*, April, Surgeon-Major Bannister, U. S. Army, gives a review of the past year's work at the First Reserve Hospital, Manilla. From the statistics of operations, the work accomplished seems to have been of a very creditable character. Bannister gives the following conclusions :—

(1) Aseptic results will just as surely follow aseptic methods in the Philippines as in America or Europe.

(2) Should septic infection occur in any clean case subjected to operation in the Philippines, the technic, not the climate, must be blamed.

(3) Successful attainment of the object for which operation has been undertaken will follow careful and skillful surgery in the Philippines with the same regularity as in America.

(4) Convalescence after surgical operations in the Philippines is rapid and satisfactory when such operations have been carefully and skillfully performed.

(5) The danger of mortality after a skillfully performed surgical operation, in which case all the details of a rigid aseptic technic have been carried out, is not increased by the influences of the Philippines unless the patient is, at the same time, the victim of some other serious disease.

GYNAECOLOGY

Under the charge of S. M. HAY, M.D., C.M., Gynaecologist, Toronto Western Hospital; Consulting Surgeon Toronto Orthopedic Hospital.

UNSETTLED QUESTIONS IN ABDOMINAL SURGERY.

The above subject is very ably dealt with in the May Number of the *Americal Journal of Obstetrics and Diseases of Women and Children*, by Dr. John G. Clark, of Philadelphia.

Operative Gynaecology has been developed in the last twenty-five years from a very narrow field to one of the most perfect of specialties, when reviewed from the general standards of accuracy of diagnosis, perfection of operative technic, and splendid curative results.

When the abdominal cavity has been opened—for example for the removal of a diseased ovary—a systematic examination of the contents of the abdomen should be made. In this examination of the abdomen, a topographical cycle, having as its center the umbilicus, may be described which will touch the organs of the abdomen most frequently the seat of surgical diseases. Beginning with the uterus and sweeping outwards, the tube and ovary and the pelvic portion of the ureter are examined, then the appendix, the cecum, the ascending colon, the right kidney, the gall-bladder, the liver, then towards the center, the stomach, the pancreas, then sweeping over to the left, the spleen, kidney, and thence downward to the ureter, the descending colon, sigmoid flexure, and back to the left ovary and tube Within this circle very few surgical conditions are encountered compared with its periphery.

The Appendix.—The appendix may quite as easily be removed in the larger majority of cases through the central as through an incision directly over it. In acute appendicitis, especially where drainage may be necessary, it is wiser to make the incision at McBurney's point.

Gall-Bladder.—In several cases which have occurred within the last two years this routine examination has yielded positive results, for a considerable number of stones have been removed coincident with other abdominal operations.

Mobility of Kidney.—While Dr. Clark's studies have led him to decide in favor of the removal of the appendix as a coincident part of an-

other abdominal operation, and, likewise, in the event of gall-stones being found that they should be removed, he is quite as positive that the mere finding of an undue mobility of the kidney is never an indication for operation, unless unquestionable symptoms point directly to it. In other words, vague neurasthenic or dyspeptic symptoms are never indications for nephrorrhaphy.

Gastroptosis.—Without doubt many of the cases which hitherto have been ascribed to reflex causes or, of later time, to movable kidneys, are directly the results of ptosis of the abdominal viscera. In exaggerated ptosis of the transverse colon it may be attached by means of the gastro colonic omentum to a point on the anterior abdominal wall above the umbilicus. If the sigmoid flexure is so greatly prolapsed that it forms an exaggerated malposition in the pelvis, it should be drawn up to more nearly a normal position and fixed to the inner surface of the abdominal wall.

There are certain contra-indications to the employment of the so-called cyclical examination. For example, when the operation in the pelvis has been attended with the evacuation of pus, which, if generally distributed in the peritoneal cavity, might give rise to a peritonitis, this exploration should be omitted. In cases which are in a critical condition at the termination of the operation it should not be made. In cases which are operated upon for a simple condition when the clinical symptoms are clear cut and point definitely to but one condition, it should again be omitted. Good surgical judgment must be our general guide.

First—Should the normal appendix be removed as a coincident part of all pelvic operations? Intelligent patients should be left to decide. In other cases the surgeon will, Dr. Clark believes, consider the patient's best interests by removing the appendix.

Second—Should gall-stones, if discovered in the course of another operation, be removed? In every case, unless the patient's condition is a contra-indication to any further operation, gall-stones, even though they have not produced symptoms, should be removed.

Third—In mobility of the kidney, what set of symptoms are sufficiently pathognomonic of a pathological mobility to indicate nephrorrhadhy? Only in instances when the symptoms very directly point to pathological mobility of the kidney should this organ be suspended as a coincident part of another operation. In his experience the percentage of these cases is not more than one in one hundred and fifty cases.

Fourth—What degree of descensus of the stomach and transverse colon require operative measures for their restoration? If the transverse

colon is situated at the brim of the pelvis and the lower curvature of the stomach is below the umbilicus, this organ should be replaced and held in position by stitching the gastro-colonic omentum in a transverse line across the upper portion of the abdomen

Fifth—Is there a group of symptoms significant of sigmoidtosis? Dr. Clark is, as yet, in some doubt, but believes that the cases of fixed aching pain at the brim of the pelvis associated with obstinate constipation in the absence of pelvic lesion, are strongly significant of this condition.

Sixth—In these cases should sigmoidopexy be performed? Although, as yet, a novel procedure, sigmoidopexy if only performed in the more exaggerated cases, may offer a hope of correcting this dislocation and relieving symptoms.

THE IMMEDIATE REPAIR OF LACERATIONS AFTER LABOR

The April number of *Gaillard's Medical Journal* contains an article on the above subject written by Dr. Stricker Coles, of Philadelphia. He says the frequency of lacerations of the pelvic floor and perineum is variously estimated by different authorities, from 5 to 10 per cent. in primiparae. He thinks this estimate too low. "In each case I deliver, the patient is brought to the edge of the bed and the parts are thoroughly inspected by placing the middle finger in the rectum and bringing forward the posterior vaginal wall. I always go prepared to repair any laceration that may occur."

The time for closing lacerations is immediately after labor, and the author of the paper does this in every case. He does not agree with those who advise waiting for involution, etc., but firmly believes that immediate repair is best. Often, in neglected cases after prolonged labor, the tissue will be swollen and oedematous, and the results will not be good, and a secondary operation may be necessary. The result will be better after immediate closure and a secondary operation than after waiting for involution and allowing the muscles to retract and the parts to lose their normal relationship. The cardinal point in closing lacerations is to have the tissue in direct opposition, bringing muscle to muscle, and fascia to fascia, and mucous membrane to mucous membrane, and skin to skin, and this can only be done, if the muscle is torn across and has retracted, by catching the ends and bringing them together, and when the tissue has not retracted, by passing the needle in a circular direction around the tear so that the needle will not come into view until it comes out on the opposite side, remembering that when the liga-

ture is tied it will form an ovoid, and there will be a pulling in of the tissue and not direct opposition unless the needle is passed circularly.

In closing lacerations of the cervix, always remember that immediately after labor the cervix is much longer than it will be forty-eight hours afterwards, so that the stitches should not be too close together nor too close to the lower edge of the cervix. You should use interrupted chromicized cat-gut sutures.

Lacerations of the anterior vaginal wall often bleed profusely. To close these and stop the hemorrhage, take in a large amount of tissue and be sure not to include or injure the urethra. Slight lacerations on the posterior vaginal wall should be closed by introducing the middle finger into the rectum while the ring and index fingers separate the vulva. The skin part of the tear should be closed with silkworm gut, starting at the anus and coming upward. The results are not perfectly satisfactory in repair of lacerations of the cervix,

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OPHTHALMOLOGY AND OTOLOGY.

Under the charge of G. STERLING RYERSON, M.D., C.M., Professor of Ophthalmology and Otology, Medical Faculty, University of Toronto.

THE VITAL IMPORTANCE OF THE DETECTION AND RELIEF OF EYE STRAIN.

Dr. Ambrose L. Ranney, of New York in the *New England Medical Monthly*, deals fully with this important subject. He says in part, the recognition of eye strain as a cause of nervous derangements unquestionably marks one of the most important epochs in medical progress. "I am personally more strongly convinced every year, after a larger experience in the investigation of the eye-factors which exist among neurotic subjects, that a large proportion of the inmates of asylums and epileptic colonies would be at large to-day provided the modern methods of scientific investigation of the eyes of such sufferers were practised upon them by capable ophthalmologists." At least 90 per cent of all typical cases of sick headache, if unassociated with organic disease, owe their attacks to some form of eye defect. In 1897 Ranney published some completely tabulated statistics relating to a series of cases of headache, chorea and epilepsy that were subjected to eye treatment alone. He showed that in twenty-six cases of chronic epilepsy, better results were obtained by eye treatment alone than have ever been reported by any other method of treatment. The results were, absolute cure, seven cases; practical cure, three cases. These patients were cured without recourse to drugs of any kind or any form

of treatment but eye-treatment. The main factor is defective equilibrium of eye muscles called heterophoria. Many cases of nervous prostration, epilepsy, vertigo, etc. are unquestionably due to the incessant struggle on the part of the brain to overcome the embarassments and perplexities entailed by being improperly balanced. It is always wise to correct any existing refractive errors very accurately with proper glasses. Some of Dr. Ranney's conclusions are eye strain can be a potent factor in disturbing the normal development of both mind and body. Near sightedness causes little or no eye strain. Far sightedness and astigmatism causes an unnatural expenditure of nerve force. Mal adjustment of the eye muscles is a prolific cause of physical and mental ills. A large proportion of eye defects is congenital. No examination without the use of a mydriatic can be considered as final. Without a thorough investigation of refractive anomalies in any patient, all muscular tests are open to suspicion and doubt. The modern methods of testing for anomalies of adjustment by means of instruments of precision are the only reliable ones. The cure of disease to-day is intelligently based on the search for the cause rather than on the indiscriminate administration of drugs

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THE USE OF ATROPINE IN OPTHALMIC PRACTICE.

Aaron Bray, M.D., in the *Therapeutic Gazette*, of 15th April, 1904 has an article on the above subject.

It was in 1833 that Geiger Moin and Hess announced that the action of belladonna on the pupil and accommodation is due to an alkaloid which they named atropium. Atropine is the alkaloid of *atropa belladonna*, a member of the family Solanaceae. It is a yellowish-white, silky, prismatic crystal without smell, having a bitter, acrid taste. It is soluble in 300 parts of water and 25 parts of ether. The salts of atropine are easily soluble in water and are therefore suitable for ophthalmic use. The sulphate is the one most commonly used, 1, as a mydriatic ; 2, antiphlogistic ; 3, analgesic ; 4, iridoplegic, and 5, cycloplegic. A drop of a half per cent. solution dilates the pupil in 20 minutes by paralyzing the terminal filaments of the motor nerves and it has also a stimulating effect upon the sympathetic fibres. Atropine is absorbed and appears in the aqueous humor. One drop of a half per cent. solution is sufficient for mydriatic purposes. Mydriasis is used chiefly for diagnostic purposes. Its antiphlogistic power depends upon the fact that it forces the blood out of the iris vessels into the ciliary vessels and again by contracting the iris and paralyzing its motor function, giving it absolute rest. It is also analgesic, diminishing or abolishing pain.

Total paralysis of accommodation is the cycloplegic effect of atropine. This is accomplished by its action on the ciliary nerves, requiring about two hours for the purpose. Its effect does not wholly wear off in less than twelve days. In the estimation of errors of refraction atropine is of great value, also in deep seated diseases of the eye.

The effect of atropine on intraocular pressure is a subject still under dispute. By some it is claimed that it increases intraocular tension, and by others that it has little or no effect.

Indications for the use of atropine.—In correcting errors of refraction in persons under forty years of age unless there is a contra-indication for its use, such as glaucoma, lactation or pregnancy, atropine is a useful agent. Homatropine is to be preferred as it does not incapacitate the patient for so long a time. In the spasm of myopia, in diagnosing posterior synechia, in various inflammatory conditions, keratitis, iritis, in ulcers of the cornea, in diseases of the choroid and retina, in diseases of the sclera, uveal tract, atropine is of inestimable value.

Contra-indications to the use of atropine.—1. Glaucoma and in all conditions in which there is increased intra-ocular tension. 2. In people over forty years of age for correction of errors of refraction. 3. In cyclitis it will increase the pain. 4. In ulcers of the cornea with impending perforation, atropine should be used with the greatest care. In the employment of atropine in children care should be used as many of them show a marked toxic idiosyncrasy. While using atropine the following points should be borne in mind : The preparation should not be contaminated nor too strong ; the lacrymal punctum should be compressed ; the solution should be asepticized by the addition of a fraction of bi-chloride ; not more than three drops should be instilled at a time.

LARYNGOLOGY AND RHINOLOGY.

Under the charge of PERRY G. GOLDSMITH, M.D., Belleville. Fellow of the British Laryngological, Rhinological and Otological Society.

NATURE, CAUSES AND TREATMENT OF NASAL POLYPI.

P. Jacques, *Revue. hebd. du Laryngol*, after an extensive discussion of the pastiological histology, draws the following conclusions: Nasal polypi are not of the myxomatous type of tumors. They must be considered as localized œdematous hypertrophies, inflammatory or not of the pituitary membrane. They are not neoplasms of fœtal connective tissue type, but the production of irritation of hypertrophied nature with a tendency to œdematous infiltration.

Predisposing causes: Age, sex, profession, manner of life, climate. Polypi have been repeatedly seen before the age of seven (they are very rare in children). There undoubtedly exists a hereditary transmissibility of the tendency to nasal polypi.

Actual causes: (*a*) Anatomical— (1) Abnormal narrowness of the nasal fossae, forcing the patient to repeated physiological efforts. (2) Abrupt bending of the vessels of the ethmoidal membrane at the level of the bone, predisposing to stasis and œdema.

(*b*) (1) Foreign bodies, local traumatisms attacking primarily the bone, necrosing ethmoiditis and rarefying ethmoiditis attacking primarily the membrane (1) Simple chronic catarrh, (2) local specific injection, (3) neighboring suppurations.

Nervous causes: (1) Spasmodic rhinitis-hydrorrhœa. (2) Hysteria

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ADENOIDS: THEIR SYMPTOMS, RELATIONS THEY SUSTAIN TO ACQUIRED DEAFMUTISM AND TREATMENT.

B. L. Floyd *Cin. Lan. Clin.* In considering the bad effects of adenoids in children the author expresses his belief that this condition is the most frequent cause of deaf-mutism. He thinks a special board of otologists should examine all deaf-mutes and when required the condition producing the deaf-mutism should be removed.

REFLEX APNŒA AND CARDIAC INHIBITION IN OPERATIONS ON THE RESPIRATORY TRACT.

William Harmar Good and W. G. B. Harland (Philadelphia). Based especially on observations during adenoid operations and during intubation, in which cases of instant death are now on record, they conclude that the origin of reflex apnœa and cardiac inhibition is through the medulla by irritation of trifacial and sensory branches of the vagus; that inhibition may be caused by irritation of the mucosa of the nose, rhinopharynx, and lungs; that obstruction to respiration is indicated by cyanosis and full pulse, while reflex inhibition produces pallor and slow, weak pulse. Reflex inhibition differs from syncope in not causing distention of blood vessels. Carbon dioxid starts respiration, and the consequent inflation of the lungs removes cardiac inhibition. In the prevention of inhibition care must be directed to the proper use of anæsthetics, both local and general; atropin may be employed effectively.

When the condition occurs, stop operation and use with vigor and persistence the usual methods for resuscitation, particularly tongue traction, lung inflation, and position of patient.—From *American Medicine.*

TONSILLECTOMY BY FORCEPS AND SNARE, THOROUGH, PAINLESS AND SAFE.

E. Fletcher Ingals (Chicago) states that the operation here proposed although practised for years and justifying the above title, is not generally familiar to physcians. In addition to an exhibition and description of instruments with a clear demonstration as to the manner of employment, he dealt at some length on indications and constraindications for tonsillectomy, emphasizing the point that the pathologic condition of the tonsil structure and not its size must be the guide. In most cases the tonsil, not larger than an almond, does not need removal; but even when much smaller, if frequently inflamed, it should be extirpated. Points of advantage claimed for the snare method of removal are: 1. Abormal distribution of arteries sometimes renders the ordinary tonsillotome dangerous. 2. After freeing adhesions—by an instrument which he devised for that purpose, the clamp forceps holds the tonsil in such position that the snare can be drawn around base, thus insuring complete removal—otherwise the operation would be futile. 3. Bleeding is not so profuse after removal with snare. 4. The snare may be gradually tightened so that the pain is very slight. For children he prefers general anæsthesia. 5. The method is especially recommended for buried tonsils. The paper was freely discussed and generally approved for certain selective cases, by Casselberry, Stucky, Richards, Wood, Donnellan, Pynchon and Freer. Freer exhibited a snare guard he had devised to prevent the wire loop from catching in the forceps.—From *American Medicine.*

THE SIGNIFIGANCE OF TUBERCULOUS DEPOSITS IN THE TONSILS.

George B. Wood (Philadelphia). In an exhaustive study involving much original research, Wood deduced the following points of interest: Tuberculosis of the tonsils occur secondarly in almost every case of advanced pulmonary involment. It occurs as a primary infection in about 5 per cent. of all hyperplastic, faucial, and pharyngeal tonsils Tubercle bacilli can probably pass through the tonsillar tissues into the lymphatics without causing any local disease in the tonsil itself, which goes to show how important may be the tonsillar structures as an etiologic factor in the production of tuberculous adenitis of the neck.

While tuberculous adenitis in most cases is not followed by pulmonary tuberculosis, it must be remembered that experimentally the tubercle bacilli, when placed in small doses in any portion of the body, show a predilection for the apices of the lungs. A series of experiments was carried out on pigs, the tonsils of some of which were exhibited.

In the discussion which followed, by Swain, Myles, Pynchon, Mayer, and others, the author was highly commended for the thorough and painstaking line which he had followed in carrying out this most interesting research.—From *American Medicine*.

OPERATIVE TREATMENT OF THE FAUCIAL TONSILS, WITH A VIEW TO PREVENTION OF CERVICAL ADENITIS AND GENERAL INFECTION.

Robert C. Myles (New York) states that while it is generally believed that the faucil tonsils are the usual portals of acute infection of the cervical glands, a point which is either entirely overlooked or at most given scant consideration by the average author, is that there is frequently a hidden chronic septic condition in the bottom of the cysts of the submerged or basic tonsils, which often escape what is considered a complete extirpation. He advises not only the removal of all cryptic tonsils, but further states that approximately complete extirpation of of these basic lymphoid masses should be performed in all suspicious cases and the earlier in child-life, the better.

Discussion.—Stucky stated that he believed in the radical operation, but not to the extent of removing every particle of tonsillar tissue, since small remnants will atrophy in many cases after the bulk of the tonsil is removed. Pynchon emphasizes importance of after-treatment in cases where small points or remnants of tonsil may be reduced and depressions developed by "massage," which may help in the development of a smoothly-healed surface. Tidings expressed approval of the plan of tearing loose the adhesions instead of cutting.—From *American Medicine*.

HEADACHE AND NASAL DISEASE.

In the *Journal of the American Medical Association* for March 5th, 1904, Robertson calls attention to headache from disturbances of air pressure in the nasal accessory sinuses. Any closure of a natural sinus outlet leads to a diminished intra-sinusal pressure owing to the absorption of oxygen by the blood-vessels of the mucous lining, and as a result the latter swells. Later there may result a serious outpouring into the sinus and an engorgement of its lymph channels.—*The Medical Times and Hospital Gazette*.

PROVINCE OF QUEBEC NEWS

Conducted by MALCOLM MacKAY, B.A., M.D., Montreal.

The medical staff for the General Hospital for the season of 1904-5 was announced June 9th, and of the present staff only two, Drs. F. S. Patch and C. W. Anderson, will remain for another year.

Dr. R. P. Campbell, who was formerly attached to the house staff of the hospital, and who is at present in Germany, will succeed Dr. W. G. Turner as medical superintendent. Dr. Turner has left on a visit to England and Germany, and until the arrival of Dr. Campbell, who is expected here next month, Dr. R. C. Patterson, who has been acting medical superintendent of the hospital, will continue in that office.

The new members of the house staff who will commence their duties in September are as follows:—Drs. R. D. Forbes, anæsthetist; J. L. Robinson, J. C. Fyshe, W. G. Ricker, J. A. Nutter, L. L. Reford, H. H. Kerr, H. G. Wood, physicians; Drs. A. C. Rankin and W. E. Ainley, locum tenens.

The Governors of the Royal Victoria Hospital have made the following appointments to the resident medical staff for the year ending August, 1905:—

Admitting officer—Dr. R. King.

Physicians—Drs. R. Hardisty, D. McKechnie, J. C. Meakins, W. A. Lincoln.

Surgeons—Drs. H. Church, F. McKenty, J. Coffin, J. A. Faulkner, D. C. McLachlan; eye and ear, Dr. L. C. Lauchland; nose and throat Dr. H. O. Howitt; gynæcologist, Dr. J. Foster; anæsthetist, Dr. F. D. Charman; locum tenens in medicine, Dr. J. E. Gillis; lucum tenens in surgery, Dr. J. W. Hutchinson; externe in medicine, Dr. J. R. Rogers.

At the last meeting of the Board of Governors of McGill University, the following appointments were made:—

In the Faculty of Medicine: Dr. R. Tait Mackenzie to be Lecturer in Anatomy; Dr. A. A. Robertson, to be Lecturer in Physiology; Dr. W. G. M. Rogers, to be Lecturer in Opthamology; Dr. W. G Scane, to be Lecturer in Pharmacology and Therapeutics; Mr. J. R. Roebuck, to be Lecturer in Chemistry; Dr. W. S. Morrow, to be Associate Professor of Physiology; Dr. A. G. Nicholls, to be Associate Professor of Pathology and Bacteriology.

In the Faculty of Arts and Science: A. S. Eve, M.A. (Cantab), to be Lecturer in Mathematics.

In the Faculty of Science: Dr. Coker, to be Associate Professor of Engineering.

In the Faculty of Arts: Mr. S. B. Slack, to be Associate Professor of Classics.

At the Montreal Medico-Chirurgical Society, Dr. Birkett presented a case of melanotic sarcoma of the hard and soft palate. Sections from the growth showed the typical formation of a spindle-celled melanotic sarcoma, but nevertheless the growth had been very slow. The case has been under treatment with the x-rays for a short time and showed slight improvement.

Dr. Starkey read a paper on the etiology of infantile diarrhœa. Areas in the city had been mapped out by the professor in which the mortality was abnormally high; these areas were noticed to have some relation to cesspools and to low-lying districts. An interesting discussion followed, in which Drs. Adams, Evans and Girdwood took part.

Dr. Klotz read a paper on several cases of carcinoma of the bile papilla. In discussing the cases he stated that no record had yet been made of the growth starting in brunner's glands but the sections which he had in his possession undoubtedly showed that these tumours might have this origin.

Dr. Mackay reported a family in which eighteen members had been affected with hereditary chorea in four generations.

At the convention of the American Medico-Psychological Association, recently in session at St. Louis, Dr. T. J. W. Burgess, medical superintendent of the Protestant Hospital for the Insane, Verdun, Que., received the honour of being elected president of the Association for the year 1904-5. The Association held its annual convention in Montreal in 1902, when some two hundred members received the hospitality of the city and the Verdun authorities.

Dr. F. W. Campbell, Dean of Bishop's Medical College, Montreal was recently awarded $2,500 damages against the Montreal Street Railway Company, for the injuries he sustained last August.

Dr. McKenzie Forbes will be unable to fill the position of resident English doctor at Little Metis this summer, owing to the demands made on his time in connection with the Children's Hospital. The committee have selected in his stead Dr. J. Appleton Nutter, who has just finished his college course with great distinction, to fill the vacancy. Dr. Nutter will remain at the Metis till the middle of September.

MANITOBA MEDICAL MATTERS

Conducted by R. H. RICHARDS, M.D., C.M., Winnipeg.

At a recent meeting of the Winnipeg Medical Association, Dr. Amelia Yeomans presented a case of six years morphinism in whom the very strong desire for the drug, after the failure of all the usual methods, gave way to some religious experience, the patient having been cured some six years.

The subject of hospital appointments is a very live one with the profession in Winnipeg as there is only one public hospital in the city, the St. Bonifice Hospital having no staff. The Winnipeg General Hospital is the only hospital in Western Canada with any pretense to clinical teaching, and it is to it that we look for the advancement of clinical medecine and surgery. Of the nearly 100 practitioners in Winnipeg, only 17 are on the attending staff of the hospital and, unfortunately, there is an opinion prevalent among the profession that the board of management of the hospital has for some time past allowed social, financial, and political reasons of expediency to rule in their choice rather than the professional enthusiasm and ability of the appointee.

Of course a hospital appointment carries with it a certain amount of prestige, when it is the only hospital in the city it is felt that a position on it is, or most certainly ought to be, the opportunity of professional education and attainment.

Some time ago, a meeting of the alumni of the local medical college made some recommendations to the Hospital with regard to expansion of the staff and better use of the clinical opportunities of the hospital. More recently, one member of the medical staff, who is noted alike for his scientific attainment and public spirit, at a meeting of the staff and board of management, proposed that the appointments be left in the hands of the Winnipeg Medical Society and the Medical Staff of the Hospital. This proposal was severaly condemned by some of the staff who believed in holding tight, and so have ended all steps in the line of reform.

The past has been a very satisfactory session at the Manitoba Medical College. There was a graduating class of 18, and about a similar number writing for the license. It will probably be a five year course after this year.

The Sisters of St. Boniface Hospital have under consideration plans for an addition, costing about $100,000. It is expected that the work of construction will commence soon.

After having been free for nearly a year, Winnipeg was visited by smallpox again. The disease was brought in by some immigrants from Glasgow, Scotland. Eight of them were in the smallpox hospital with a moderately severe type of disease and two cars more of the party were quarantined as "contacts."

Plans are being considered for a new college, as the present structure is quite inadequate. The future of Winnipeg and the west is very promising and it is felt that the Medical College must keep abreast of the times.

The annual report of the Winnipeg General Hospital for 1903 is to hand. Total number of patients treated was 3,354, an increase over last year of 14 per cent.

The report goes on to deplore the lack of accommodation and the necessity of refusing applications for admission.

The outdoor department had 3,483 consultations. This department is about to be enlarged by the Hospital, a step which must be viewed with grave distrust, as tending to encourage a form of hospital abuse so prevalent in other cities.

The total hospital death-rate was 7½ per cent.

Of the different diseases, first comes typhoid fever, the Winnipeg hospital always having a large number of cases, the past year there being 268 cases, with a mortality of 10 per cent.; scarlet fever 37 cases, mortality 34 per cent.; and diphtheria 133, mortality 7 per cent.

In skimming over the surgical report one notes 993 operations with a mortality of 38. One removal of the Gasserian ganglon is noted, the patient, however, succumbed.

Of prostatectomies, there were only 3, (all *supra pubic,*) with one death.

Hysterectomy was performed 5 times with a mortality of 2.

Quite a number of new men have settled in Winnipeg even since the new year. They must be attracted by some of the large incomes some of the city practitioners are making in real estate.

Dr. Mort McEwen, well known in the city, being a graduate of Manitoba Medical College and a native of Brandon, has resigned the position of house surgeon in Vancouver General Hospital, which position he has held for a number of years, and intends going on an extended tour.

MEDICAL SOCIETIES AND GATHERINGS

ONTARIO MEDICAL ASSOCIATION, 14TH, 15TH, 16TH JUNE, 1904.

HYDATIDIFORM MOLE AND ITS RELATION TO CHORION EPITHELIOMA.

Dr. C. J. Hastings, Toronto, took this topic for his paper. The various theories advanced by the earliest writers to explain this condition were briefly considered. Early in the 6th century Amidi taught that each vesicle contained a living embryo. Later, the echinococcus was blamed for the condition. Velpeau first showed the cysts to be distended villi.

Among the causes given for this condition are diseases of the blood vessels, disease of the lymphatics, and degeneration of the mucous in the villi. The whole chorion is usually diseased ; sometimes the placenta alone is involved. Marchand demonstrated that it was the epithelial covering of the villi more than the stroma that was affected and that both the syncytium and Langhan's layers of cells underwent profuse and irregular proliferation. The terminal blood vessels disappeared, the stroma degenerated, and the cells necrosed, (the fluid contents is not mucin but serum.)

Symptoms usually manifest themselves before the tenth week. To the usual signs of pregnancy there is added a sudden bloody discharge and a disproportionately large uterus with no evidence of foetal life. Constitutionally, there are anaemia and debility, with pressure symptoms and pain.

The diagnosis is made from the enlarged uterus, the irregular flowings, with the absence of foetal signs. Exploration may be necessary. Twins and threatened abortion must be differentiated.

The treatment is to empty the uterus at once, using the finger or the long-handled ovum forceps to remove the neoplasm. Firm retraction must be secured subsequently.

The vesicles are characteristic ; their mode of attachment to the main stem and one to another is by a pedicle. The embryo may or may not be found. Dr. Hastings further pointed out the fact that chorion epitheliora is frequently preceded by hydatidiform mole.

He presented a series of three cases illustrating the condition, and the relationship to deciduoma malignum.

Mr. I H. Cameron called attention to this condition as illustrating an epithelial growth from the foetus to the mother tissue. He cited a

case of a woman pregnant of an hydatid one year after the menopause followed by abortion and a subsequent deciduoma malignum.

Dr. McIlwraith pointed out that secondary infections in deciduoma malignum frequently disappeared after operation.

The Treatment of Appendicitis in Pregnancy.

Dr. John Sheahan, St. Catharines, presented a most carefully prepared paper on the treatment of appendicitis in pregnancy. The question as to whether or not the surgeon should interfere in these cases was ably discussed. Until quite recently, non-interference has been the practice; now, however, in acute infective cases pregnancy must be considered no bar to immediate and radical operation.

Dr. Sheahan reported the following case: Mrs. B., aet. 25, primpara, 4 months pregnant, no history of previous appendicular trouble, was seized with sudden severe pain in the hepatic region. The following day the temperature and pulse were normal, and there was also a frequent desire to urinate with pain in the bladder and over the liver. Three days later there was a chill, followed by a temperature of 104, a pulse of 140, respirations 30, and some vomiting. There were pain in hepatic region and tenderness over McBurney's point with but slight rigidity. Two days later, a thickened and inflamed appendix was removed, an uninterrupted recovery following. At the eighth month, premature labor was induced for albuminuria with the birth of a dead child.

A summary of 100 cases, prior to 1899, showed that abortion most frequently followed operation; when pregnancy went to full term the foetal mortality was 50 per cent.

The same causative factors as exists in uncomplicated cases, pregnancy itself only affecting those cases where the appendix hangs over the pelvic brim or where the enlarging uterus separates the adhesions of former attacks, or presses on an appendicular enterolith.

The frequent occurrence of abortion, estimated at 40 per cent. is referred to the intimate vascular connections existing between the appendix and the uterine adnexa, Cases with abcess involving the uterus are most unfortunate as the uterine contractions aid in extension of the pus.

The uterine tumor prevents palpation. The muscles are stretched and the intestines are pushed up. The following points are important: 1. A history of constipation; 2. the sudden onset of acute abdominal pain in right iliac fossa; 3. the localization of the pain over MrBurney's point; 4. vomiting; 5. high temperature and rapid pulse; 6. rigidity of right rectus; 7. examination per vagina under anaesthetic is advisable.

Conditions such as right tubal pregnancy, acute salpingitis, cholecystitis, gall-stone colic, and kidney crises must all be carefully differentiated.

In simple catarrhal forms, the prognosis is good without operation; all other cases are favourable if operated on early. Abrahams however says the prognosis is gloomy. He observed 16 cases with 8 deaths and an infant mortality of 86 per sent.

An inflamed appendix is a source of extreme danger and, as its removal is attended by few additional dangers to the mother and foetus, Munde's dictum is, "Treat the case early, regardless of pregnancy.' W. Meyer of New York lays down the following rules: 1. Operate within 12 hours in acute perforating appendicitis. 2. A rapid pulse (116 to 120) is an indication for operation. 3. In case of doubt, operation is better than waiting. 4. A sudden lull for ten or twelve hours is an indication for operation. 5. The recurrence of an old appendicitis during pregnancy also demands surgical interference.

Dr. Webster, Toronto, advised operation by the vaginal route in pelvic peritonitis during pregnancy. It entailed less shock to the patient. He reported a case of suppurating appendicitis with pelvic abcess opened by this route with excellent results.

Anomalies in Foetal Development.

Dr. J. H. Peters, of Hamilton, read a paper on an interesting case of monstrosity, and exhibited the fœtus. There was an absence of the abdominal walls, with extrusion of the liver and bowels. There was no indication of genital organs. He regarded the case as belong to the class called celosoma by Dr. Hirst.

Mr. Cameron, Toronto, pointed out that external genital organs being absent merely meant that the testes which in the foetus were abdominal organs had not descended.

Occipito-Posterior Presentation.

Dr. Macdonald, Toronto, read a paper on this subject in which he advocated rotation of the head by hand, the patient being anaesthetised. The child's body should be rotated by external manipulation.

Dr. Barrick, Toronto, endorsed the methods of Dr. Macdonald. In cases where the head is out of proportion to the pelvis, how can we use the forceps? The rotation or quarter turn may be impossible when the pelvis is narrow. My treatment is, where the child is viable, perform version as it preserves the mother from injury.

Dr. A. F. McKenzie, Bracebridge, noted the importance of the paper but took issue with Dr. Macdonald's percentage for posterior pre-

sentations. In his experience there were about 20 per cent. of such cases but nature generally rotates them herself. He emphasized the importance of diagnosis; it is not always necessary to insert the hand, external palpation being sufficient, especially if the abdominal walls are thin. In vaginal examinations, if the anterior fontanelle is felt first, the case is generally left occipito-posterior presentation.

Dr. Hastings, Toronto, drew attention to the importance of strict asepsis, and emphasized the usefulness of abdominal palpation as an aid to diagnosis.

Dr. Todd, Toronto, said in his experience the method of introducing the hand and rotating the head was accompanied by a greater mortality to the child.

Dr. Hunter, Parkdale, advised leaving the cases largely alone and not meddling with them. Nature would nearly always correct the position and effect delivery.

Dr. Temple, Toronto, said early anterior rotation forward is always the treatment for posterior presentations. He could see no reason for an increased mortality provided surgical asepsis was maintained.

Dr. McIllwraith, Toronto, thought that leaving these cases to nature for a time and then applying the forceps was a cause of increased mortality. He advised early anterior rotation.

Dr. Ross, Toronto, explained on request of Mr. Cameron, his father's method of treatment in these cases. He passed two fingers in front during a pain and the head rotated itself on them.

Dr. Macdonald, in reply, could see no reason for an increase of mortality by the introduction of the hand. The following points are essential: 1. Choose your time, *i.e.*, before the membrane's rupture, the os being dilated. 2. Fully anæsthetise the patient. 3. Cleanse the parturient canal and your hands, rotating the head the quarter turn; rotate the shoulders by external manipulation. 4. Keep the occiput down and in position until the forceps are on and locked. Then make traction in the correct direction.

Lorenz Treatment of Congenital Hip Dislocation.

Dr. H. P. H. Galloway, Toronto, exhibited a patient with congenital bilateral dislocation of the hips, treated by the Lorenz bloodless method. He also gave a brief review of the present status of the Lorenz method. The case presented, Dr. Galloway explained, was one of the fortunate ones in which he had been able to secure a perfect result. He showed a number of photographs, illustrating the various stages in the treatment of this patient.

The results gathered from an exhaustive study of reports of cases treated by the Lorenz method may be summarized as follows: Lorenz reports 50 per cent. of unilateral cases cured and 25 per cent. of bilateral cases cured. A report of 94 cases operated on by the Lorenz method gives 10 per cent. cured, 50 to 60 per cent. good results, 20 to 30 per cent. failures. By good results is meant that anterior transposition is accomplished, the head of the bone not being replaced in the acetabulum, but considerable improvement in the gait being effected. By Hoffa's method, which differs slightly from that of Lorenz, 30 per cent. of unilateral cases and 7.7 in bilateral cases are reported cured, with 50 to 60 per cent. anterior transpositions.

The results of the Lorenz American tour are exceedingly disappointing, most cases have relapsed, the conditions not being at all good. Sherman gives the following dangers in the method: (a) Paralysis from injury to the nerves; (b) fractures of the pubic or femur; (c) gangerene of the limb.

It would appear from the study of these statistics that to get one perfect result ten cases must be put up in dressings for six to eight months. This is highly undesirable, as in 60 per cent., a few weeks only are necessary to accomplish anterior transportation. Dr. Galloway pointed out that the great difficulty in reducing the dislocation is the constriction of the capsule which exists between the head and the acetabulum. He advised cutting down anteriorally, slitting this constriction and replacing the head. In conclusion he expressed his opinion that the Lorenz method was fast loosing ground.

Dr. B. E. McKenzie, Toronto, said diagnosis of congenital dislocation is usually easy, but to exclude infantile paralysis is sometimes a difficulty. The value of x-rays in diagnosis is well illustrated by the excellent photographs presented by Dr. Galloway. Other reasons of failure in reduction are that sometimes the head of the femur is absent or is very small, or there may be no acetabulum or a very small one. The anatomical conditions are such as to render failure inevitable. He reported fifteen cases with three cures.

Thoughts on Cancer.

Sir W. H. Hingston, Montreal, read an able paper on the above topic. It appears in this issue.

Moved by Mr. Cameron, Toronto, seconded by Dr. Harrison, Selkirk, that the hearty thanks of this Association be tendered to Sir. Wm. Hingston for his most excellent paper.—Carried with applause.

Dr. Dickson, Toronto, said the electrical treatment of epithelioma of the face is accompanied by good cosmetic results. He advocated the

establishment of a chair of Electrical Therapeutics in the University. He referred to the method of electro-metallic treatment with the decomposing of mercury and zinc forming an oxychloride of mercury and zinc, as being especially useful in epithelioma of the tongue, and sarcoma. He advised the ray treatment to follow operation on malignant cases, citing examples to show that the secondaries frequently disappeared under the raying.

Dr. W. Oldright, Toronto, gave an account of a case of amputation of the breast in which he had not removed the glands in the axilla; with a good result. He believed that the glands should not always be removed.

Dr. A. McPhredran, Toronto, discussed the importance of early diagnosis in gastric carcinoma. The patient should be submitted to careful examination with special attention to the age, pain and discomfort in the epigastrium, its nature and relation to food, etc. Many cases may be relieved if diagnosed sufficiently early.

Dr. John Hunter, Toronto, emphasized the importance of good hygienic and systematic after treatment in these cases. It helped to prolong their lives.

Sir Wm. Hingston in reply, supported Dr. Dickson's electrical treatment. In operations he aimed to cut wide of the growth and considered it a great misfortune if during the course of the operation he should see the cancer. Never operate for purposes of diagnosis. Take time and exercise patience. The less experienced the man, the sooner he will operate.

Placenta Praevia.

Dr. McIlwraith, Toronto, read this paper. From a careful consideration of the various methods of treatment, the conclusion was reached that when you decide to interfere in these cases, i.e., when the fœtus is dead, or the mother in danger from hemorrhage, the best method of procedure is to do a combined or Braxton-Hicks version, bringing down a leg and then leaving the delivery to nature. The leg serves to check hemorrhage whilst by leaving the case to nature you avoid serious post-partum hemorrhage from laceration of the cervix or rupture of the uterus. To perform version, dilatation of the os sufficient to admit of the introduction of two fingers is all that is necessary. When the os is not dilated, plug the cervix with iodoform gauze or a lysol tampon and repeat if necessary in from four to six hours. Champetier de Ribe's bag is not satisfactory. For rapid dilatation no instrument is equal to the skilled use of the fingers.

Dr. Holmes, Chatham, said he had tried and discarded most methods. The tampon had given him the best satisfaction in most cases. The patient should be in a hospital or under the constant care of a trained nurse. No patient should be left alone in the country with the danger of a hemorrhage coming on suddenly. The doctor related an instance in which he had spent a whole week in the country watching one patient. The tampon should be sterile but in introducing it do not draw the uterus down as when the tenaculum is taken off the uterus returns to its position leaving a space between it and the tampon. Use a Syms' speculum and introduce the cotton tampons one by one until the canal is packed full. The pains will come on rapidly and the presenting part come down and check the hemorrhage.

Dr. W. J. Wilson, Toronto, would not risk the tampon if the waters had come away.

Dr. John Hunter, Parkdale, thought it important to resuscitate the patient before commencing delivery.

Dr. McIlwraith, in reply, expressed his opinion that the tampon kills the child and is not sufficient in checking severe hemorrhage,

The Technique of Intestinal Anastomosis.

Dr. N. A. Powell, Toronto, gave a very interesting and instructive demonstration of Technique of Intestinal Anastomosis by Elastic Ligature and other devices. He first traced the history of Intestinal Anastomosis making mention of Senn's bone plates, Murphy's button and McGraw's elastic ligature. "The trend of opinion to-day is to do away with complex devices, the surgeon endeavoring to become more proficient in manipulation." The doctor performed two gastro-jejunal anastomosis illustrating the method of employing the elastic ligature and the later improvemont by means of the triangular stitch introduced by Dr. R. S. Weir and J. W Maury, of New York.

Pain in the Upper Abdominal Zone.

Dr. Geo. Hodge, London, in an exhaustive paper, reviewed the causes and diagnosis of pain in the upper abdominal zone. Among the causes noted were pleurisy; pneumonia; gastric crisis; caries of the dorsal vertebrae; uraemia; appendicitis in the early stage; cardiac cases (*a*) pericarditis, (*b*) angina, (*c*) aneurism; rheumatism, especially in children; subphrenic peritonitis following gastric ulcer; hyperacidity of the stomach; hypersecretion with spasmodic vomiting; gastric ulcer; carcinoma of the stomach; chronic gastritis; in the liver, abscess, carcinoma, Hanot's hypertrophic cirhosis, cholecystitis, cancer of the

gall-bladder, cholelithiasis; of the spleen, movable spleen, infarct, abscesses, spleno-medullary leukaemia; in the pancreas, acute pancreatitis, chronic pancreatitis, cystic disease, and cancer; in the intestines, duodenal ulcer, impacted faeces in the transverse colon; and in the kidney, nephroptosis, nephrolithiasis, abscess, tuberculosis, and malignant disease.

Dr. H. A. McCallum, London, complimented Dr. Hodge on his masterly paper. He drew attention to the difficulty of diagnosis in cholecystitis, reciting a case with pain over the gall-bladder with rigidity, following typhoid fever. It proved to be suppurating cholecystitis.

Dr. McPhedran, Toronto, also complimented Dr. Hodge on his excellent treatment of this important subject, in which mistakes in diagnosis are extremely numerous. He drew attention to the fact that many abdominal lesions were accompanied by identical symptoms, the pain in the early stages being practically always referred to the umbilicus. He called especial attention to diaphragmatic pleurisy complicating central pneumonia, and to a tender area just to the right of the eleventh dorsal vertebra, described by Boas, and occurring invariably in cholecystitis. In faulty conditions of the gastric secretien, especially accompanied by an excess of hydrochloric acid, the pain is extreme and is not relieved by food or the administration of antacids, this class of patients, moreover, are neurasthenics and bear pain badly. The stomach contents varies greatly, it may be scanty, or copious if associated with pyloric spasm.

Dr. Oldright, Toronto, said the pain of appendicitis and perforation of the intestine was frequently referred to the upper abdominal zone.

Sir. Wm. Hingston, Montreal, was pleased to note that Dr. Hodge, in his most exhaustive enumeration of causes, had not forgotten to mention that most important condition, uraemia. He instanced a case in which he and a confrère had been puzzled by this condition causing severe pain in the stomach for some time.

Dr. Holmes, Chatham, gave the history of an interesting case, the patient had been sick for three or four years with pain in the right side, extending from the iliac region to the liver. Paroxysms of severe pain with acute suppression of urine, followed by a copious discharge of pus in the urine, occurred at various intervals. The diagnosis lay between appendicitis, movable kidney, and suppurating cholecystitis. An exploratory incision over the region of the gall-bladder revealed a tongue-like projection of the liver, which in some mysterious way pressed on a suppurating kidney and under certain conditions prevented the discharge of pus. He was at a loss to satisfactorily explain the mech-

anism of this action. The patient was immediately turned on his side, and a nephrectomy performed, a perfect cure following.

Dr. Marlow, Toronto, called attention to small hernial protrusions of fat in the linea alba sometimes producing severe pain. He had seen two cases.

Dr. Webster, Toronto, said pain may be due to dislocation of the spleen with rupture of the gastro-splenic omentum. Tumor of the ovary and herpes zoster were other causes of pain.

Lithotomy Versus Litholapaxy.

Dr. C. B. Shuttleworth, Toronto, gave a complete and critical review of this subject. From statistics of all the large hospitals available the writer concluded:—

(*a*) Litholapaxy is certainly the operation of election in all simple cases of stone in the urinary bladder.

(*b*) When the stone is too hard, or too large, to be crushed through the urethra, or by the the lateral method without injury, the suprapubic method should be adopted or, perhaps, better, perineal lithotrity.

(*c*) When the stone is encysted, or associated with a tumor of the bladder, or prostate, choose the suprapubic route and remove both at the same time. The mortality of a large number of cases is about twenty per cent. by the suprapubic method.

(*d*) Where there is a tight, deep urethral stricture, especially when fistulæ exist, requiring a long operation to overcome, select the suprapubic or median perineal operation

(*e*) In anchylosis of one or both hip joints, which interferes with the use of urethral instruments, and excludes all perineal operations, do suprapubic lithotomy.

(*f*) In the presence of foreign bodies in the bladder, which may form the nucleus of a calculus and resist the lithotrite, perform one of the perineal methods.

(*g*) Although litholapaxy applied to children is very successful in the hands of experts, for the present, lateral lithotomy is the safer operation for the general surgeon.

(*h*) Litholapaxy should be carried out, whenever possible, when senile degenerations exist, or when there are morbid changes in the genito-urinary apparatus, and the necessary treatment afforded to the complication, either before, or after, litholapaxy.

Dr. Cockburn, Hamilton, claimed as a matter of practical importance, we do not get a sufficient number of cases to afford the necessary practice to become expert in the operation of litholapaxy. The suprapubic

method has undoubtedly a bad record, but it is an easy operation to perform and with no chance of blank lithotomy. The safest method is perineal litholapaxy, but I consider the method of dilating the prostatic urethra with the finger, as advised by Reginald Harrison, a dangerous proceeding. The surgeons should practise the operation on the cadaver.

Dr. Powell, Toronto, drew attention to the importance of litholapaxy as a method of extracting stones from female children. He instanced two cases; one a girl five years old from whom he removed a large and a small calculus weighing 241 grains by litholapaxy. This was some years ago and so far as he knew, was the first instance of the method being employed in female children. At the request of Dr. Bigelow, these cases were published, the first being given in full in Skene's text-book on the diseases of women. The method has now become the established procedure. "I have never been able to overcome my dread of the suprapubic route based on the mortality reports of the large hospitals. So far I have only removed 107 stones by the suprapubic method, but it is only fair to say, however, that 106 of these came from one case. On the whole, I prefer the lateral section, when the case is not suitable for litholapaxy."

Dr. Primrose, Toronto, regretted that he had not heard the whole paper, but considered the suprapubic method quite as difficult as the perineal operation. He told of a case where the surgeon attempted litholapaxy and failed, then anaesthetised the patient and attempted the suprapubic method, which was given up after wounding the peritoneum twice, the patient was finally put in the lithotomy position and the stone extracted with the greatest ease by lateral section. He took issue with Dr. Shuttleworth's tables of the mortality of the various methods, pointing out that the more difficult cases, those with prostatic complication were the subjects of suprapubic section. Consequently the mortality compared unfavorably with the simpler cases in which the other methods were employed.

Dr. Ross, Toronto, had recently visited Mr. Freyer in London, and had seen some of his work. Mr. Freyer has become so skilful in litholapaxy that he now practically never cuts for stone.

Dr. Webster, Toronto, wished to know which method would be employed with encysted stone.

Dr. Shuttleworth thanked the gentlemen for the interest taken in the discussion. His statistics had been gathered from a great number of cases in large hospitals and embodied the results of operations on all cases.

Treatment of Ophthalmia Neonatorum.

Dr. Perry Goldsmith, Belleville, read a paper on this subject. He advocated the use of argyrol in the treatment of the affection.

Dr. Trow, Toronto, did not consider that Dr. Goldsmith should call his treatment unorthodox, in fact, he considered it quite the orthodox method. He emphasized the importance of the careful treatment of the cornea. Argyrol is a God-send in many ways. A 20 per cent. solution may be dropped into the eye and, if the child is lying down, will reach all parts of the conjunctival sac. No thickening of the conjunctiva results as with the old painting method, in which abrasion of the cornea was so dangerous. Cocaine should be used with caution, it hardens the cornea and causes some proliferation of the epithelium. Bichloride does this also and should not be used in eye work. Protargol has not the advantage of being painless as is argyrol.

Dr. Goldsmith replied that theoretically the bichloride is of no use as it precipitated with mucus and forms an insoluble albuminate of mercury.

The Diagnosis of Small-pox.

Dr. C. A. Hodgetts, Secretary of the Ontario Provincial Board of Health, read a carefully prepared paper on this important subject. He condemned the practice of looking for a certain definite clinical picture. He thought the terms varioloid or modified small-pox should be applied only to cases occurring in those who have had small-pox, or been vaccinated. The disease in Ontario has been most prevalent in January and February. The virulence of the contagion appears to be direct relation to the severity of the attack. The incubation period is 12 days, but in mild attacks it may be 15. The initial symptoms are not unlike an attack of grip, the running from 100° to 102° F. and lasts from 24 to 72 hours. The temperature then drops to normal or may be sub-normal with the appearance of the eruption. A severe initial stage may be followed by a severe eruptive stage, or vice versa. The eruption appears in a few hours to 72 hours after the onset. It is at first macular, then popular and soon becomes vesicular. While popular the skin has a shotty feel. The distribution is mainly on the face and extremities. They may be in one crop; but oftener it is in several. From 1 to 3 days may elapse before it comes fully out. Vesicular stage lasts about three days, rarely five. The rash increases in size to that of a pea and the vesicles contain serum. The vesicles are multilocular and do not collapse on being pricked. Some are umbilicated. By the fourth and fifth days, the vesicles are changing to pustules. These dry and

shrink and are often shed from the face by the tenth day. Such is the course of the typical cases now prevailing in the Province. They last about 21 days. In the recent outbreak the cases have been characterised by the mild onset, the abortive nature of the eruption, the absence of constitutional depression and secondary fever, and the mildness of the infection. The disease must be distinguished from chicken-pox, impetigo contagiosa, pustular syphiloderms, urticaria papulosa and acne.

The Gravenhurst Hospital for Tuberculosis.

Dr. Parfitt presented an account of the work done by the Free Hospital for Incipient Tuberculosis recently opened in Muskoka by the National Sanitarium Association. He appealed to the members of the profession for a fuller recognition of the importance and need of this work, pointing out that the Hospital was dependent upon the charity of the public, and the medical profession could do a great deal towards keeping its doors open to the needy poor by their co-operation. He presented statistics of the Hospital showing that excellent results followed the systematic out-door treatment, and closed his most interesting paper with a hearty invitation to the members of the Association to visit the Free Hospital and see for themselves the out-door treatment in active operation.

Dr. J. N. Elliot, Gravenhurst, joined with Dr. Parfitt in inviting more of the profession to visit the Sanatorium. He assured them of a hearty welcome, and was quite convinced that the visit would be of profit to themselves.

Dr. Goldsmith, Belleville, had visited the institutions and could testify to their excellent work, especially in laryngeal cases. The patients were under the constant supervision of the resident physicians, and received treatment, inhalations, applications, etc., once or twice daily if necessary. He had no hesitation in advising patients to go to the Sanatorium.

Dr. Milner, Toronto, from his experience in examining for life insurance, was convinced that the early diagnosis of phthisis, in which stage it was favourable for Sanatorium treatment, was often overlooked. He considered it the duty of every family physician to examine carefully, at least once every six months, those of his patients with a phthisical tendency. He should pay special attention to haemic murmurs and the character of the breath sounds.

Dr. Trow, Toronto, related the experience of a patient, a neurasthenic, phthisical, sallow-faced book-worm, who lived in a tent at Gravenhurst through the summer, and through most of the severe winter months, coming back to Toronto robust and healthy.

Dr. Parfitt, in reply, regretted to say that laryngeal cases usually do badly unless the patient be in otherwise good health. He was sorry that physicians would continue to send to the Sanatorium patients in advanced stages of the disease with only a few more months to live. He would much prefer to have patients sent merely on suspicion, as they were prepared to make most delicate tests by means of tuberculin and the injection of sputum into guinea pigs.

Cases Illustrating the Difficulties of Diagnosis and Treatment of Tumors.

Dr. Wm. Oldright, Toronto, exhibited specimens of tumors removed in which the diagnosis had been complicated. He related the history of of these cases and gave a resume of the differential diagnosis.

Dr. Perfect, Toronto Junction, asked how Dr. Oldright would control vomiting following abdominal section.

Dr. Oldright said vomiting after operation is often difficult to control. Washing out the stomach is useful, and a hypodermic of morphia over the epigastrium may be successful in stubborn cases.

Discussion on Series of Life Insurances.

On Wednesday morning a very excellent series of papers, dealing with the various phases of Life Insurance as it more especially interests the doctor, was read by the following gentlemen: Dr. H. R. Frank, Brantford; Dr. F. Le M. Grasset, Toronto, Canada Life; Dr. R. J. Dwyer, Toronto; Dr. Edw. Ryan, Kingston, Canadian Order Oddfellows; Dr H. C. Scadding, Toronto, Canada Life; Dr. B. J. Riordan, Toronto, North American Life; and Mr. Percy C. H. Papps, A.I.A., Actuary Manufacturers' Life.

A vote of thanks was moved by Drs. Harrison and Davison to Mr. Papps for his interesting and instructive paper.

These papers and the discussion on them will appear in a future issue.

The Relative Importance of the Clinical and Bacteriological Evidences in Diphtheria.

Dr. Sheard, Toronto, said: I have not thought it wise, Mr. President and Gentlemen, to present to you a set paper this evening, but shall submit some ideas with the object of eliciting an expression of opinion from those members of the profession assembled here. Many physicians imagined that the discovery of the Klebs-Loeffler bacilli and the proof that injecting them into guinea pigs and cats produced diphtheria, settled the question beyond further discussion. But I make bold to state that

the physician who imagines we know all about diphtheria is confronted with difficulties and troubles at every turn. I am fully convinced we cannot depend exclusively on the findings of the bacteriological examinations in these cases. There are many cases which present no physical signs but in which the bacilli are undoubtedly, present and the generally accepted opinion that when the Klebs-Loeffler is present we have diphtheria is not always true. Whether the absence of symptoms is due to a personal immunity or not I am not prepared to say.

There are four distinct varieties of Klebs-Loeffler bacilli; the long forms, the short, the attenuated, and the pseudo-bacilli. They produce soluble toxins and are sometimes associated in their actions with pus organism, these toxins produce the symptoms which we designate diphtheria.

I have a series of seven cases diagnosed as posterior fibrinous rhinitis in which not one, but a series, of bacteriological examinations failed to reveal the presence of the Klebs-Loeffler, but each case was followed by paralysis. We generally admit with paralysis we have diphtheria. he virulence of diphtheria varies much according to the seed, the mortality sometimes being over 90 per cent. I remember a man from Buffalo with diphtheria who stopped at the Brown Hotel; seven new cases developed from exposure, of whom six died. Some time ago a Russian family of nine, set out for Toronto; two of them died at sea of diphtheria, two more in Montreal, and two others in Toronto. All this bears out the teaching that diphtheria is due to a particular form of vegetable organism and, as such, is subject to the laws which govern the growth of all seed in various soils.

1st. The sequelae are due entirely to the toxins, the extent of the membrane being of no consequence in this connection. If we have cellulitis and no adenitis, the condition is most serious, the toxins entering the nerve trunks and destroying their vitality. The sequelae may be expected at any time from the third week to the third month.

2nd. Many conditions are due to the associated pus organisms, such as the secondary eruptions, which are identical with those of septicaemia, and in no way dependent upon the Klebs-Loeffler.

Another form of bacterial diphtheria is the post scarlatinal type in which, during the second week of the fever, the patients have the Klebs-Loeffler but exhibit no symptoms, they invariably get well, and are not infective. I have records of 16 such cases. Again we have the association of scarlet fever and diphtheria, the diphtheria not following the scarlet fever, but both diseases existing simultaneously in the same patient, as the result of two separate exposures—the incubation period

of scarlet fever being four days, whilst that of diphtheria being about six days. At the Isolation Hospital we have a separate ward for these mixed cases. Again, we have those cases of post-diphtheretic scarlet fever, where the scarlet fever follows closely on the heels of diphtheria, and where, in spite of any form of treatment,we have a mortality of over 80 per cent. And, as these cases occur as frequently in private houses as in hospitals, they cannot be accounted for by infection from one hospital patient to another. A frequent experience at the Isolation Hospital is to have whole families sent in, half of whom are suffering from diphtheria the other half from scarlet fever, showing the correctness of Sydenham's contention that there exists a far greater intimacy between these two diseases than the private physician would care to admit.

I can report several cases in which, after weeks of most energetic treatment, the bacilli could not be gotten rid of and, though such cases were discharged, no new cases have been known to result from them. One patient in the scarlet fever ward developed otitis media, in the discharge from which the Klebs-Loeffler bacilli were found. He was discharged and no resulting cases have been reported, From these experiences, I am convinced that when the bacillus of diphtheria exists in the pus it is innocuous and non-virulent.

In conclusion, these questions naturally arise : 1st. Is scarlet fever antidotal to diphtheria ? The answer appears to be in the affirmative. 2nd. Does not diphtheria aggravate scarlet fever ? The answer again is "yes." 3rd. Is the difference in the two diseases due to the evolvement of a soluble toxin by the Klebs-Loeffler bacillus ? Osler once said to me "If the rash appears, disappears, and re-appears, it is, in all probability, a septic rash." The scarlet fever rash we know does not appear and re-appear, but there are many septic cases, such as recurring erysipelatous rashes, all closely connected clinically with diphtheria and scarlet ever.

The Treatment of Diphtheria by Antitoxine.

Dr. McMahon, Toronto, followed Dr. Sheard with a paper upon "The Uncertainties of Diagnosis and the Necessity of Early and Vigorous Treatment of Diphtheria." He emphasized the importance of the early injection of adequate doses of antitoxin in all suspected cases, even before the results of a bacteriological examination could be obtained. He called attention to the great reduction in the mortality, especially of laryngeal cases, since the introduction and the general use of antitoxin. In his own practise he was pleased to report that since he had adopted

the rule of early and efficient treatment with antitoxin, he had not had a single death. From the reports of the Hospital for Sick Children, he was convinced of the effectiveness of immunizing doses of antitoxin and advised that members of a family in which a case occurred should each receive adequate immunizing injections.

Dr. A. R. Gordon, Toronto, strongly verified Dr. McMahon's statements and expressed himself in favor of the early, abundant and fearless treatment with antitoxin.

Dr Allan Baines, Toronto, said: I must congratulate Dr. McMahon upon his happy experience with antitoxin. I wish it to be emphatically understood that I am a believer in antitoxin, but I can report no such good results. In one case I injected 4,000 units, followed in four hours by 2,000 units, in four hours again by 2,000 more units—in all 8,000 units in eight hours, but in spite of this the patient died. Pure cases of diphtheria are benefitted by antitoxin, but those cases of mixed infection with the streptococcus and the staphylococcus are not cured by antitoxin It is just ten years ago since this question was thoroughly thrashed out in the Pediatric Society at New York when this same conclusion was reached.

Dr. W. J. Wilson, Toronto, said: My experience is the same as Dr. McMahon's. My practice is to inject antitoxin early, take swabs in all suspicious cases, and make my own cultures, in this way I have a report in eight hours. I believe calomel fumigation and intubation to be valuable adjuncts in the treatment of laryngeal cases but my rule is, "When in doubt use antitoxin." A difficulty we encounter is that when swabs are sent to the Health Office on Saturday evening, no report can be received until the following Tuesday morning.

Dr. John Ferguson, Toronto endorsed Dr. McMahon's position. I use antitoxin freely and early, and in young children rather increase the size of the dose than diminish it, as their tender constitutions have little power in producing self-immunity. Concerning the cases of mixed infection, with the staphylococcus or streptococcus present, I maintain that if you can control the Klebs-Loeffler bacillus, you materially aid the child in its struggle. I am pleased to report that I have not had one death since using antitoxin. In all, I have had nine intubation cases, three before the period of antitoxin, and all died; and six since the introduction of antitoxin and all recovered.

Dr. B. Z. Milner, Toronto, said: I wish to call Dr. McMahon's attention to the fact that there is diphtheria in the Sick Children's Hospital at present and that recently when I wished to operate on

several cases, I was informed that they were in the isolation ward with diphtheria, and this in spite of immunizing injections.

Dr. Sheard, Toronto, asked Dr. Machell concerning 15 cases in the Children's Home. Did these all receive immunizing doses?

Dr. Machell, Toronto, said, as far as my memory serves me, I believe all did not receive immunizing doses from being ill and that but one or two cases occurred in those patients where immunizing doses had been given. Diphtheria varies markedly in epidemics. In some epidemics all die, in others all get well.

Dr. F. N. G. Starr, Toronto, pointed out that the cases at the Hospital for Sick Children, where the present epidemic commenced, were in children from eight to ten years old, and that the ordinary immunizing dose of 500 units for a child of two or three years was not sufficient for these older children.

Dr. John Hunter, Parkdale, expressed the opinion that the mortality was greater with the use of the antitoxin than without it.

Dr. Webster, Toronto, has never seen any good result follow the use of antitoxin after the child once had diphtheria. Of four cases in one family, sent to the Isolation Hospital, one only received antitoxin and it was the only one which did not recover.

Dr. A. A Macdonald, Toronto, believes in the effect of immunizing doses, but that in most cases the dose is too small. Do the thing early and do it thoroughly. Is not your experience the same as mine in laryngeal cases. Formerly, did not practically all our laryngeal cases die, but is it not now your experience that the child suffering from marked dyspnoea after the injection of the antitoxin soon commences to breathe freely and easily.

Dr. McMahon, in reply, reiterated his former statements and said that if Dr. Webster had used antitoxin immediately the little girl would not now be under a small mound on the hillside.

Dr. Sheard, in reply, wished to be understood that there were other things in the treatment of diphtheria besides antitoxin; such as cleansing sprays and swabs; and moreover that laryngeal cases will die in spite of antitoxin from laryngeal stenosis. He doubted the immunizing effects of antitoxin.

The Luncheon.

On Wednesday afternoon, the Association held its annual luncheon. The affair was a most enjoyable one, excellent speeches being given by Premier Ross, Hon. Mr. Harcourt, Dr. Harrison, Selkirk and Dean Reeve Immediately after the luncheon, through the kindness of the Automobile

Club the members of the Association were treated to a ride around the city.

Diseases of the Prostate.

A series of papers were read on this subject by Drs. Bingham and Marlow, of Toronto, and Dr. Holmes of Chatham. These papers will appear in The Canada Lancet in an early issue.

Dr. Bruce, Toronto, prefered the suprapubic operation, although he had not acquired the dexterity of Mr. Freyer who shelled out the prostate in two minutes. He had never met with any special difficulty in reaching the gland in fat patients. Within the last month he had operated on one very stout gentleman and by pressing the prostate forward from below had experienced no difficulty in removing it.

Dr. Powell, Toronto, had not intended to take part in the discussion, but was drawn into it by the good-natured raillery of one of the speakers. He was pleased to say that although he dreaded the suprapublic route, he had as yet no mortality in the operation. Statistics from large centres, however, showed the operation to be attended with a mortality of about 20 per cent. He cited a recent aggravated case and had just that day received a letter from the patient announcing that he was able to dispense with his catheter.

President Ross, told of a recent visit to Mr. Freyer, in London, and gave short extracts from letters of rejoicing nobility upon whom Mr. Freyer had operated for enlarged prostate. Duke —— writes, "Dear Dr., —— I can now pump ship like a two-year-old." Earl —— writes, "Dear Dr. —— I tell you I can now make the pot hum, etc."

Mr. Cameron, Toronto, was pleased to have heard Dr. Holmes' interesting and able paper. He agreed that the older perineal route was the better method. It was not absolutely necessary to damage the urethra in all cases. He took exception to the expression, the anatomical middle lobe as there is no middle lobe to the prostate. He regretted to report a serious mortality by the suprapubic method. He did so, however, out of the hope that those present might benefit from his misfortune. Within the last year and a half he had done 15 suprapubic sections with 5 deaths. Two of the fatalities could not be attributed to the operation, one being due to facial erysipelas and the other to hemplegia; but the other three, who were promising and otherwise healthy patients, died suddenly, one acutely insane in 24 hours who had been perfectly well 12 hours after the operation; one unaccountably without either hemorrhage or shock in about 20 hours having been in excellent condition 12 hours after the operation; and the last in about 48 hours of albuminous oedema of the lungs, the pulse and temperature having been normal and

the general condition excellent 12, 24 and 36 hours after the operation. With the old perineal operation, he had had no mortality.

Dr. McKinnon, Guelph, operated wholly by the suprapubic method. He considered it much easier, involving less danger of wounding the rectum, and rarely followed by fistulae. His mortality had not been great. The perineal route is simple, involves less shock to the patient, but is frequently followed by fistulae. He reported a series of cases with successful operations and recovery, in patients from 65 to 83 years old. He had only had two deaths.

Dr. Olmstead, Hamilton, thought all methods are simple to those practised and skilled in the method of their choice. On the continent, the perineal method was used almost exclusively and with great success; while in England and Canada, the suprapubic route was the method of election and enjoyed the same success. He advocated the more frequent use of the cystoscope. Freyer was able to announce good results, and he was surprised that with the immense amount of material at his disposal he did not announce more of them, because he was able to carefully select his cases. In Canada we could not so pick and choose but were forced to do our best to relieve all sufferers. In his mind the one objection to the suprapubic method was the poor drainage obtained.

Dr. Holmes, in reply, strongly advised more careful study of the Bottini operation. No general anaesthetic was required, and he believed it had a great future before it.

Dr. Bingham, in reply, said the contracted bladder was easily raised by the hand in the rectum. The bladder should be sutured to the abdominal wall before opening.

Neurasthenia in Some of its Relations to Insanity.

Dr. D. Cambell Myers, Deer Park, gave a paper on this topic. He held that neurasthenia may run on into confirmed insanity. He urged proper hospital treatment for many cases of incipient insanity.

Worries, annoyances, shocks, losses, auto-intoxication had much to do with the causation of neurasthenia. A marked characteristic of the diseases was the readiness with which the brain fatigued, the slightest exertion in many cases producing exhaustion. From introspection some of these patients gradually passed on to the formation of delusions. In the treatment of neurasthenia the causes must be sought for and corrected. Rest, seclusion, hydrothorapy, electrization, massage, and feeding were the points requiring careful attention. The recovery was sometimes very slow.

Dr. McKenzie, Bracebridge, emphasized the importance of the subject, stating that neurasthenics were frequently met with in country practice.

These cases fall easy victims to the quacks. It was a matter of great difficulty to carry out isolation in many cases.

Dr. John Ferguson, Toronto, held that neurasthenia and the earlier forms of insanity are several links in the same chain, the exact situation of the boundary line is beyond human judgment. Pronounced cases of neurasthenia or insanity are easy of diagnosis, but between these there is a series most puzzling to us all. The question is one of physical disturbance, the great feature being that the slightest mental effort produces exhaustion. Again, the nerve system becomes so depleted of all energy that physical exertion is impossible. The condition is a nutritutional change first, followed later by an anatomical one The dendrites fail to absorb sufficient nutriment from the brain matter and the slightest possible effort exhausts this limited supply. Disorganization sets in and the sickly, weakly, though normal, cell becomes a morbid and pathological one, and ultimately disappears. The conditions producing these effects are: (1) Prolonged worry ; (2) sudden mental shock ; (3) overwork and insufficient rest ; and (4) some toxaemia which affects the brain, injuring the nerve cell.

Dr. Hunter, Parkdale, would like to know the position hydrotheraphy occupied in Dr. Myer's treatment. A woman under his care, suffering from a pronounced form of neurasthenia, for whom he had prescribed a cold bath every morning, preferably at 5 a. m., followed by a brisk bicycle ride, was now a perfect picture of ruddy health.

Dr. Bruce Smith emphasized the use of hydrotheraphy in treatment, the etiological value of toxaemia, and the importance of early recognition of the symptoms in neurasthenia. "Insanity," he concluded, "is the culmination of nervous derangements in the patient, undiscovered and uncorrected."

Dr. Holmes, Chatham, thought that women are born with unstable nervous systems, and later in life misfortune overtakes them which lower ther vitality and produce the symptoms of neurasthenia. We must search carefully for the cause. It may be a movable kidney, an inflamed gall-bladder, faulty position of the uterus, inflammation of the ovary, laceration of the cervix, or eye strain. The correction of these conditions, he believed, would in most cases result in the entire disappearance of the nervous symptoms. In a case of puerperal insanity, recently under his care, he repaired a torn cervix, and the insanity disappeared. Many cases also were due, he believed, to auto-intoxication from the alimentary canal.

Dr. McPhedran, Toronto, remarked that cases on the borderland between neurasthenia and insanity are difficult of diagnosis. Neuras-

thenia should include all cases of nerve prostration. For example, in one patient weakness of digestion may be the prominent feature, another patient cannot sleep or rest, still another may have disturbed cardiac action, but all are neurasthenic. He believed that there should be better provision for more careful attention to the incipient insane. There should be one or more stations for temporary treatment of such patients, and wherein incurable and curable cases could be separated. This would materialiy relieve the asylums, and save the patient from the stigma attached to having been an inmate of an asylum for the insane. There are such institutions in Europe and in the United States.

An inherited difference in the vitality of tissue is responsible for the easy break-down in neurasthenics. Some have poor vitality of brain, of kidney, or of stomach, with the result that these organs are readily exhausted.

Dr. W. J. Wilson, Toronto, agreed with Dr. Holmes that putting all the organs right and changing the environment of the patient would accomplish many cures. He deprecated the wholesale removal of ovaries for trifling causes, the ultimate result being bad.

President Ross could not agree with Dr. Holmes. Some years ago, through the kindness of Dr. Beemer, of Mimico Asylum, he operated on a number of women patients, repairing lacerations, correcting uterine displacements, etc., with no change in the mental condition of the patients. They were insane before, are insane yet, and will probably remain so.

Dr. Myers, in reply, thought any pathological condition should certainly be treated, but improvement in the mental condition could not always be expected to follow. He could see no reason why an operation on a woman's uterus should necessarily influence the condition of her mind.

Shin Diseases.

Dr. A. McPhedran gave a clinic on the following cases of skin disease :—

(1) Imetigo Contagiosa.—The disease is contagious, most commonly occurring on the face or pubic regions, and due to the streptococcus or staphylococcus, or, as some believe, to a specific organism. The disease tends to recur from time to time.

Treatment consists in cleansing and the application of antiseptic ointments, such as ung. hyd. amm. chlor., or better, resorcin, 20 to 30 grains in an ounce of lanolin. The principle in the treatment of all skin diseases is, to cleanse and apply antiseptic, soothing or stimulating applications.

(2) Erythema Multiforme.—The trouble commenced in March, four years ago, as a vesicular euption occurring on the hands, face and neck, *i.e.*, the exposed parts only. The eruption lasted all summer, faded in the fall, leaving no mark. It returned in the March of the following spring, and went through the same cycle. The lesions are first vesicular, then pustular, and finally coarse crusts, which drop off in a few weeks, leaving faint marks. No inflammation precedes the vesiculation. It is, doubtless, purely a congestion with a serous exudate, followed by an exudate of leucocytes and ultimate crusting.

(3) Acne and eruption on the leg, syphilitic or tubercular.—The treatment of acne is difficult in phlegmatic types. Stimulate until slight desquamation and then soothe. R. Resorcin, gr. 20; B. Naphthol, drachms ½; sulphur, dr. 2; green soap and vaselin, aa. oz. 1.

To soothe the leg ulcer, use these:—Zinc oxide, 1; gelatine, 2; glycerine, 3; aqua, 4. Add, if necessary, ichthyol, 2, 3, 4 or 5%.

(4) Tinea tonsaurans.—This affection is difficult to cure, as the micro-sporon is deep down in the hair follicles. Two principles to be observed are thoroughness and perseverance, *i.e.*, use any parasiticide and keep it up. R. Sulphur, drs. 2; Lanolin, oz. 1; or Chrysarobin, drs. 1, to the ounce.

(5) Cycosis non-parasitica.

(6) Leucoderma in a man with pernicious anæmia.

Dr. H. B. Anderson exhibited the following cases:—

(1) Urticaria pigmentosa.—Present since birth. Small wheels, leaving yellowish, or brownish pigmentation spots; recur at intervals in the same spot, leaving a deeper stain. The pigmentation is due to the escape of red blood corpuscles and deposit of their pigment. (2) Weeping Eczema. (3) Psoriasis. (4) Exhibition of Cholene crystals from the blood of a nerve case, prepared by Dr. F. H Scott, according to the method of Dr. Haliburton. (5) Molluscum fibrosum.—A man with many hundreds of small cutaneous tumors.

Strain in Relation to Disease of the Heart and Aorta.

Dr. H. B. Anderson showed the following specimens: (1) Rupture of the aorta following rapid walking. The patient dropped dead. Specimen presented by Dr. Powell. (2) Rupture of the left ventricle during the passage of a stomach tube in a woman aet. 60. (3) Rupture of the sinus of Valsalva with aneurismal dilatation pressing into the right heart. Captain on a boat, aet. 55, attempted to carry a heavy tie, fell unconscious, suffering from tachycardia, and died nine months later. (4) Dissecting aneurism, involving the whole of the

descending aorta down to the bifurcation of the iliacs. One brother died of aneurism. Patient moderate drinker, generous liver, no history of syphilis. After a week of unusual exertion, was seized with a sudden pain and a sense of weakness and died the same night. The blood had burst the middle and inner coats of the aorta and made a false passage for itself under the adventitia.

Method of Recording Chest Examinations.

Dr. Elliott, Gravenhurst, gave an illustrated paper on the advantages of a pictorial record of chest examinations. The method commended itself for ease, simplicity, and efficiency to all present. Dr. Elliott very kindly offered to explain the details of the system with illustrations, etc., to anyone who cared to communicate with him.

A Group of Malignant Diseases.

Dr. R. N. Fraser, Thamesville, reported six cases of malignant disease, occuring in succession in persons who had waited upon each other, or occupied the same bed or room.

Dr. W. J. Wilson, Toronto, recited the case of a gentleman in Germany who, by mistake, drank the stomach contents from a patient with gastric carcinoma, and he himself died of cancer some months later. Another case where a physician, by mistake, sucked up the stomach contents of a cancer patient from a tube, and died of cancer some fifteen months later.

Dr. Ferguson, Toronto, referred to the excellent record of family cases of malignant disease reported some time ago in a number of the British *Lancet*.

Dr. Marlow, Toronto, asked if the undescended testicle in No. 5 of Dr. Fraser's series had been found to be cancerous?

Dr Fraser, in reply, did not wish to give the impression that he held cancer to be infectious. It is probably auto-infectious. He could not answer Dr. Marlow's question, as the gland had not been examined.

The Surgical Relief of Epilepsy.

Dr. A. Primrose, Toronto, gave the report of a case of epilepsy which had been benefited by operation.

Dr. Dickson, Toronto, explained the method of localizing motor centres in the cortex by electrodes from a faradic current. Experimenting should not be done as it involves great shock to the patient.

Mr. Cameron, Toronto, thought lesion giving rise to cortical irritation should be removed. What is epilepsy? It is a discharge of nervous energy from the motor centre, where the cells go off at half-cock. He

believed case 1, of Prof. Primrose, was a hystero-epilepsy, probably a disciple of Captain Marryatt's. There is no use operating unless you can find some local lesion. Personally, he had not met with much success in the operation; the patients were better for about a year, but the epilepsy almost invariably returned.

Dr. John Ferguson, Toronto, remarked that statistics show that less than 5 per cent. of epileptics are relieved by surgical procedures. Idiopathic cases, with focal symptoms, and especially Jacksonian epilepsy, are the favorable cases. Cases operated on almost invariably recur owing to the contraction of cicatricial tissue, and the last condition is worse than the first. He reported a case caused by depressed fracture, on which he had operated with complete recovery.

Dr. Bruce, Toronto, reported a case of traumatic epilepsy in which he removed some of the cortex, corresponding to the hand centre. At first there was paresis of the hand, but this recovered and, later on, the patient developed epilepsy on the opposite side. "So I transferred him from a right-handed to a left-handed epileptic."

ARID REGIONS IN THE TREATMENT OF PULMONARY CONSUMPTION.

Dr. J. Frank McConnell, Las Cruces, gave a most instructive paper on the influence of arid regions in Colorado, New Mexico, and other places on pulmonary tuberculosis.

Dr. Oldright, Toronto, complimented Dr. McConnell on his excellent paper. Was always pleased to meet their former students and learn of their successes. He asked Dr. McConnell to explain the action of the alfalfa in stopping dust.

Dr. Wishart, Toronto, thought we should congratulate ourselves on the information gained from this paper. It will be of great assistance in directing patients to suitable health resorts. He asked the doctor about the winds and the feeding in the arid zone.

Dr. Hunter, Toronto, had visited the arid regions and could add his testimony to that of Dr. McConnell. The medical men in those districts were prominent physicians from New York and other large cities forced to live in these health resorts. "Do not load your patients down with directions how to live, but place them in the hands of resident medical men." He would like to know about the disinfection of houses and the removal of patients in Pullman cars.

Dr. Cameron highly complimented the writer; the paper was as full of pabulum as an egg, and might be well taken as a model.

Dr. Webster, Toronto, said many consumptive people have but limited means, and cannot afford to take long journeys and live in expensive resorts. Many of them are able to get well right here in Toronto.

Dr. McConnell, in reply, said the alfalfa meadows were effective barriers to the dust. Patients were better to provide themselves with tents and then they ran no risk of infection from houses. One could live comfortably on $10 a week.

Papers By Drs. Milner, Wishart and Bruce.

Dr. Milner, Toronto, read a paper on Lympho-sarcoma; Dr. Wishart of Toronto, one on Double Otitis Media; Dr. Bruce, Toronto, reported a case of Resection of the Caecum for Carcinoma.

Inflammation of the Lacrymal Apparatus.

Dr. G. H. Burnham, of Toronto, took this topic as the subject of his paper. He stated that lacrymal apparatus is divided into two parts—that which forms the tears and that which carries them away. The canaliculus may be dilated by a fine probe and the passage and sac cleansed by a proper syringe, or drops. Inflammation of the lacrymal sac may be caused by injury, by irritating particles getting into it, or by stricture of the nasal duct. The inflammation of the sac may become very acute, accompanied by pain and swelling. An abscess may form. The nasal duct is formed of mucous membrane and periosteum and is frequently the seat of stricture. In obstruction of the nasal duct and inflammation of the sac, the canaliculus is divided into the sac. Some dilate the nasal duct by passing probes, increasing their size till large ones are introduced, and sometimes inserting a style. Dr. Burnham does not agree with the custom of passing very large probes; he does not go above No. 4. The passage is cleansed by means of an antiseptic, and a style is inserted. In some days the style is removed and the passage treated with cocaine and adrenalin and disinfected. The style is re-replaced. In some cases it is a very difficult matter to pass the probe and much force may be required. Strictures in the canaliculus and nasal duct may have to be divided.

Dr. Wishart asked Dr. Burnham if the inferior turbinate was not frequently enlarged close to the outlet of the nasal duct, and if cauterization was not indicated? Would like Dr. Burnham to explain more fully what he meant by the constriction bands in the canaliculis lacrymalis?

Dr. Burnham replied that where the turbinate was enlarged it should certainly be treated. By the constrictions he meant little cicatricial bands which prevented the free passage of the probe into the lacrymal sac and had to be divided time and time again until no obstruction was offered.

Diagnosis of Kidney Disease.

Dr. Hackett, Detroit, gave an exhaustive account of the newer methods of renal diagnosis.

He referred to the value of the cystoscope in determining the condition of the bladder mucosa and the opening of the ureters. When methylene blue is given by the mouth, it should appear in the ureters in 15 to 30 minutes. If it does not appear on one side for 60 minutes, there is disease on that side. Indigo-carmine may be injected into a muscle to make these tests. The urine may be obtained from each kidney separately by catheterization, or by segregation. In the latter, the bladder is raised up between the opening of the ureters, allowing the urine to collect in two separate portions of the bladder. The freezing point of urine, cryoscopy, is of some value, as the freezing point of the urine from the diseased kidney, is less than from the sound kidney. He referred to the phloridzin test. If .005 gram be administered by the hypodermic method, in 15 minutes sugar will appear in the urine, but much more freely from the healthy kidney. Increase in the concentration of the blood is a sign of renal insufficiency. The value of x-rays was mentioned as a means of diagnosing calculus in the kidney.

A Case of Myxœdema.

Dr. Trebilcock, Enniskillen, reported a case of severe anaemia due to myxœdema.

Dr. Rudolf, Toronto, thought Dr. Trebilcock had given a most classical picture of myxoedema pure and simple. The firm swelling noted was not characteristic of pernicious anaemia, and the marked improvement following the exhibition of the thyroid extract was a positive therapeutic test.

Notes of an Uncommon Case of Rectal Surgery.

Dr. Clouse, Toronto, reported an interesting case of rectal tumor, which ultimately was cured by operative measures.

Diagnosis of Functional Heart Murmurs.

Dr. Rudolf gave a paper on this subject. Functional murmurs, as first described by Laennec, are soft and blowing in character, occurring most commonly in the position of the pulmonary area, opposite the second left costal cartilage, and in no way connected with valvular diseases. They are due not to anaemia as so often taught, but to a condition of hypotonus of the muscles of the circulatory system. That is, there is a relaxation of the sphincter muscles guarding the mitral and tricuspid orifices, and permitting of a leakage. In the pulmonary

area, the fibrous band around the orifice permits of no dilatation, but the muscular structure of the pulmonary artery permits it to dilate and, consequently, we have a condition in which the blood stream flows from one chamber, that is the right ventricle, through a relatively constricted orifice, into the dilated pulmonary artery. This is the most favourable arrangement for the production of a murmur. Dr. Rudolf laid down the following rules to aid in the diagnosis of a functional from organic murmurs :—

(1) They occur in adolescence and young adults. (2) They are more common in males than females. (3) They all occur during ventricular systole. (4) While the pulmonic area is the most common situation for functional murmurs, it is a rare site for organic murmurs, congenital stenosis being the only one found. (5) Functional murmurs are heard in the neck, e.g., Bruit de Diable. (6) As the general health improves, functional murmurs tend to disappear, organic murmurs on the other hand tend to get louder with increasing strength. (7) Functional murmurs are soft and accompany rather than displace the first sound. (8) They are not so widely propagated as are organic murmurs. (9) They vary under certain conditions, e. g., they are louder after exertion and are especially increased on lying down. (10) The pulmonic second sound is accentuated early, even before the murmur is heard, this is not so in organic pulmonary stenosis. (11) They are accompanied with little signs of dilatation or displacement of the apex. (12) Cardio-respiratory sounds are sometimes mistaken. Ask the patient to hold his breath and they will disappear. (13) Signs of failing compensation are rare in functional cases. (14) The patients are not conscious of the existence of the murmur. An analysis of the patients in the surgical wards of H. S. C. showed that in 60 per cent. functional murmurs were present. An analysis of a number of wards in the T G. H. and St. Michael's Hospital showed the existence of functional murmurs in 50 per cent. of the patients. (15) Fever gives rise to functional murmurs. They occur in 66 per cent. of scarlet fever cases, and are apt to occur in rheumatic fever. A useful rule in this connection is, "Functional murmurs tend to occur late in fever, e. g, rheumatic fever, while endocardial murmurs appear within the first ten days." (16) Pressure has not much effect as a rule in altering functional murmurs.

Finally, we are all too apt to conclude that there is organic disease when we hear a murmur, and we are too easily soothed into believing the patient organically sound when no murmur can be discovered.

Motions, Resolutions, Etc.

Moved by A. McPhedran, seconded by N. H. Beemer,—That in the opinion of this Association there exists an urgent need for the establishment of hospital accommodation for the temporary reception and treatment of suspected and incipient cases of mental alienation. The establishment of such institutions offers the only efficient means for the cure of such cases and would save many of them from the stigma of having been incarcerated in an Asylum for the Insane. Carried.

Moved by W. H. Smith and seconded by F. Fenton,—That the thanks of this Association be extended to the Automobile Club of Toronto, for the kindness exhibited to the members in the very pleasurable ride about the Parks of the city. Carried.

Votes of thanks were also passed to the President and Senate of the University of Toronto, for the use of the Medical Building; to the retiring President, the Secretary, the Assistant Secretary and other officers of the Association for their painstaking work in arranging for this excellent meeting.

The motion of Drs. Cameron and Thistle, that the Ontario Medical Association be changed to constitute a branch of the British Medical Association was on motion of Drs. Powell and McPhedran, referred to a committee to be named by the incoming President and Mr. Cameron, which committee should report to this Association. In connection with this, Mr. Cameron pointed out that the membership fee of one guinea to the British Medical Association included the subscription for the British Medical Journal. By constituting this Association a branch of the British Medical Association, we would in no way interfere with our own autonomy. Dr. Bingham pointed out the difficulty already existing in getting men to attend the Ontario Medical Association and that the matter was one of too much importance to be passed over hurriedly. Dr. Ferguson thought the Association should exercise due caution before obligating its members to any additional expense in the matter of fees.

A motion was also passed granting $100 to the Ontario Medical Library Association.

Incoming Officers.

The following officers were elected for the ensuing year: President, Dr. Wm. Burt, Paris; 1st. Vice-President, Dr. J. L. Davison, Toronto; 2nd Vice-President, Dr. Geo. Hodge, London; 3rd Vice-President, Dr. E. Ryan, Kingston; 4th Vice-President, Dr. T. H. Middlebro, Owen Sound; General Secretary, Dr. Chas. P. Lusk, Toronto; Asst. Secretary, Dr. Samuel Johnston, Toronto; Treasurer, Dr. Fred. T. Fenton.

Additions to the Committees.

The following names were elected by the Nomination Committee, to serve on committees: Credentials,—Dr. Olmstead, Hamilton; Dr. Boyd, Bobcaygeon. Public Health,—Dr. Trimble, Queenston; Dr. Fraser, Thamesville. Legislation,—Dr. H. D. Livingston, Rockwood; Dr. Jas. Sampson, Windsor. Publication,—Dr. E. E. King, Toronto; Dr. John Hunter, Toronto. By-Laws,—Dr. Alex. Taylor, Goderich; Dr. W. J. Charlton, Weston. Ethics,—Dr. H. A. McCallum, London; Dr. T. McKeough, Chatham.

The Treatment of Inebriates.

Some time ago a movement was set on foot in Toronto with the view of urging upon the public and the Government of the Province the need for better provision for the treatment of inebriates. Considerable progress has been made and a number of influential persons have identified themselves with the organization. Dr. A. M. Roseburgh is secretary.

The Pan-American Medical Congress.

This Congress, which meets every third year, will hold its meeting this year in Panama in the latter part of December.

The Medical Department at St. Louis.

This is one of the departments of the Congress of Arts and Sciences. The medical department is to be divided into twelve sections. The chairman of this department is Dr. Wm. Osler. An excellent program of papers and addresses has been arranged for the meeting, which is to commence on 20th September.

The Canadian Medical Association.

This Association meets in Victoria and Vancouver, B. C., from 23rd to 26th August. Dr. Dunstall, the President, and his committee, are working hard to secure a good meeting.

American Congress of Tuberculosis.

This International Congress at the St. Louis Exposition on October 3, 4 and 5, promises to be a great success. Already very many leading scientists have expressed their intention of being present.

UNIVERSITIES AND COLLEGES

THE ONTARIO MEDICAL COUNCIL EXAMINATIONS.

The following candidates passed the final examination of the College, of Physicians and Surgeons of Ontario, June, 1804 :---

Abbott, S. F., London; Armstrong, J. R., London.

Biggar, L. J., Toronto; Bell, F. M., Kingston; Bond, A. T., Ryckman's Corners; Brewster, R. S., Beeton; Blanchard, N., Sunderland; Babb W. F., Carlinford; Blakeman, F. W., Stratford; Branscombe, M. R., Picton; Blair, H. G. F., Ashton.

Cullen, E. K., Toronto; Chambers, W. J., Lockalsh; Chapman, G. R., London; Croft, L. V., Middleville; Cryan, J. H., Demorestville.

Dickey, J. S., North Williamsburg; Duggan, C. E., Oil Springs; DeHaitre, E., Rockland; Dodd, F. J., Ottawa.

Fisher, R. O., Ashgrove; Frederick, E. V., Campbellford; Fraleigh; A. J., Bloomfield; Foster, N. J., Kagawong.

Gemmell, W. T., Seaforth; Greenway, G. E., Little Britain; Graham, W. A., Toronto; Gallie, W. E., Barrie; Gilmour, C., Toronto.

Hair, C. H., Lavender; Harris, R. B., Prince Albert; Hunt, J. G., London; Hunt, W. B., London: Holmes, K. H., Chatham; Hendry, W, B., Toronto; Hill, F. W., Ottawa; Houston, D. H., Belleville; Hodgson, E. L., Toronto.

Jamieson, H. C., Guelph; Kerfoot, W. J., Minesing; Kingster, C. E., Ruscombe; Kidd, J. H., Warsaw.

Lang, M. H., Langford; Leeson, J. D., Toronto; Little, Isabella, Toronto.

Moore, H., Athens; Magee, C. F., North Gower; Meldrum, W. N., Ayr; Marshall, G. E. Toronto; Munro, J. H., Maxville; Mugan, P. J., Toronto; Murray, D. C., Newton; Munro, D., Blytheswood.

McLean, H. C., St. Thomas; McCulloch, J. M., Durham; McCulloch, E. A., Thomasburg; McIntosh, J. A., Vankleek Hill; McLaughlin, R., Cumberland; McKinley, W. W., Seeley's Bay: McIntosh, G. E., Mississippi Station; McCarthy, D. M., Kingston; McLellan, J., Toronto; McCartney, G. E. R., Carlisle; McColl, T. H., Wallacetown; McLean, Hector, Glencoe; McInnes, A., Bognor.

O'Reilly, B. S., Toronto; Oille, J. A., Sparta.

Proctor, A. D., Ottawa; Phillips, J., Hewett; Perkins, M. J., Toronto; Quinlan, P. F., Stratford; Ross, F. A., Guthrie; Richardson,

G. A, Stouffville; Ross, V., Guthrie; Robinson, E. J., North Williamsburg; Reid, Victoria, Kingston; Rowntree, J. W., Thistletown.

Staley, A. A., Wolfe Island; Singer, S., Toronto; Secord, W. H., Brantford; Singleton, A. H., Newboro; Smith, Geo. E., Toronto.

Taggart, E. A., Ottawa.

Ward, G. H, Napanee; Willson, A., Russell; Williams, W. T., St. Thomas; Woolner, W. A., Toronto; Wilson, G. E., Toronto; Weir, B. C., Strathroy; Williams, E. J. F., Brockville.

Young, J. M., Renfrew.

UNIVERSITY OF TORONTO GRADUATES.

The following have passed the final examination in medicine:—A. H. Adams, H. J. M. Adams, R. W. Anderson, G. B. Archer, W. D. Beaton, J. H. Bennett, M. W. Berwick, G. M. Biggs, E. E. Binns, J. W. Brien, H. R. Bright, F. J. Brodie, H. R. H. Bryan, T. D. Buck, W. A. Burr, E. C. Burson, D. D. Campbell, A. H. W. Caulfield, F. E. Chalmers, C. W. Clark, W. B. Clarke, G. W. Crosby, W. E. Cruickshank, F. B. Day, A. F. Demary, O. T. Dinnick, W. Dixon, J. A. Duncan, G. E. Eakins, F. S. Eaton, M. H Embree, E. G. Evans, B. J. Ferguson, W. L. C. Gilbert, J. Graham, W. H. Harvey, W. B. Hendry, T. R. Henry, A. L. Hore, P. J. F. Houston, A. M. Kennedy, J. F. L. Killoran, A. Kinghorn, N. D. Kyle, A. J. Leach, I. S. Le Drew, M. H. Limbert, R. McCaffrey, R. J. A. McComb, P. J. McCue, E. A. McCulloch, R. J. P. McCulloch A. H. McFadden, P. McGibbon, J. K. McGregor, D. C. McKenzie, D. F. McKinley, J. P. McKinnon, W. E. McLellan, J. G. M'Leod, M. A. McQuade, A. F. Malloy, J. J. Matheson, P. J. Mugan, T. Mulligan, D. C. Murray, C. R. Newman, K. D. Panton, L. A. C. Panton, W. Reid, W. G. Reive, A. Ross, A. L. Russell, A. Scarlett, A. E. Schultz, F. H. Scott, F. J. Sheahan, G. M. Shaw, G. E. Smith, R. G. Snyder, J. B. Stallwood, F. N. Stephens, A. E. Stewart, A. B. Sutton, W. F. Thorn, A. D. Unsworth, K. H. Van Norman, F. S. Vrooman, S. B. Walker, T. A. Watterson, F. E. Watts, J. W. Wighman, W. A. Wilson, W. W. Wright. Hygiene—A. A. Jackson, R. D. Nasmith. Mental Diseases—W. S. Ford, F. E. Fyle. M. Galbraith, J. H. Todd.

J. A. Kane will be admitted to the degree of bachelor of medicine on passing in physics of the first year. G. W. Thomas will receive the degree on passing in chemistry of the second year.

The following are required to pass supplementary examinations before completing the final examination:—Medicine—W. S. Ford, F. E. Fyle, M. Galbraith, H. Jones, R. Van Sickle. Clinical medicine—W. H.

Carveth, F. F. McEwen, J. H. Todd, A. C. Woods. Surgery—A. A. Jackson, J. W. Lord. Clinical surgery—A. C Woods. Surgical anatomy—F. E. Fyle, M. Galbraith, A. A. Jackson, H. Jones, F. F. McEwen, R. D. Nasmith, L. S. Stewart, J. H. Todd. Pathology—M. Galbraith, H. L. Burrin. Obstetrics—W. H. Carveth, W. S. Ford, W. E. Fyle, H. Jones, J. H. Todd, R. Van Sickle. Therapeutics—W. H. Carveth, W. S. Ford, J. W. Lord. Medical jurisprudence—H. Jones.

Medals—Faculty gold medal, R. J. P. McCulloch; first faculty silver medal, A. Kinghorn; second silver medal, R. W. Anderson; third silver medal, S. B. Walker.

Scholarships—First year—I. W. C. Shier; 2. O. A. Cannon; second year; 1. J. H. Holbrook; 2. A. S. Moorhead.

Prizes—Daniel Clark prizes in medical psychology—1. R. J. P. McCulloch; 2. K. D. Panton.

Post graduate scholarship—The Geo. Brown memorial scholarship in medical science. For this scholarship A. Kinghorn, S. B. Walker, R. J. P. McCulloch, H. R. Bright, G. B. Archer and K. H. Van Norman ranked in the order named.

The following are eligible for admission to the degree of M.D.:—J. A. Oille, A. A. Small, C. E Treble.

McGILL MEDICAL EXAMINATIONS.

The pass list numbers about 82 from a total number of 98 undergraduates for the year. The Holmes gold medal, for highest aggregate in all subjects forming the medical curriculum was awarded to J. A. Nutter, B.A., of Montreal, while the final prize for the highest aggregate in fourth year subjects goes to J. L. Robinson, of St. Mary's, Ont. The honors for aggregate in all subject sare as follows:—

1. Robinson, J. L.; 2. Nutter, J. A., B.A.; 3. Lincoln, W. A.; 4. Meakins, J. C.; 5. Miller, V. L., B.A.; 6. McKenty, F.; 7. Fyshe, J. C., A. B.; 8. Coffin, J. W.; 9. Gillis, J. E.; 10. Faulkner, J. A., B.A.

The following have successfully passed their examination in fourth year medicine and will receive the degree of M.D.:—

Ainly, W. E., B.A.; Alford, J. H.; Atkinson, H. S., Bentley, J. S., B.A.; Black, J. C., Blakeman, F. W., passed at Christmas; Bonin, R. P. Carnochan, W. L. C., passed at Christmas; Charman, F. D., Chipman, W. W., Coffin, J. W., Cook, W. J., Crack, I. E., B.A., Cram, W. J., Crosby, P. C., Crowell, B. C., B.A., Davidson, H. D. J., Dickson, W. H., passed: Dillon, W. P., Douglas. E., B.A., Dunn, J. F., Eaton, C. E., Faulkner, J. A., B.A., Fisher, E. M., Fisher, F., Folkins, C. G, Ford, H. S., Fraser, S., Fyshe, J. C., B. A., Gibson, G. M., Gibson, R., Gillis, J. E., Gilroy, J. R.,

Gormley, J. C. Graham, R. W., Grant, N. P., Greenwood, W. T, Harrison L. L., B.A., Hogan, F. J., Hotchkiss, E. A., Howitt, H. O., Hutchinson, J. W., Johnson, J. G. W., M.A., Judson, A. H., Kerr, H. H., Keys, M. J., Lauchland, L. C., B.A., Lincoln, W. A., Lippiatt, H. T., Losier, A. J., MacKenzie, A. B., MacKid, L. S., McIntosh, L. DeC., McKentry, F. McKenzie, R. P., McLachlan, D. C., Markson, S. M., Martin, J. C., Meakins, J. C., Miller, C., Miller, V. L., B.A., Murphy, H. H., B.A., Nagle, S. M., Nutter, J. A., B. A., Park, A. W., Preston, C. E., Price, Joe., Quain, B. P., Rankin. A. C., Redford, L. L., B.A., Richardson, C. A., Richardson, C. A. C., B.A., Robinson, J. L., Rogers, J. T., B.A., Sellery, A. C. Ph. B., Sims, H. A., Smith, C. A., passed at Christmas; Stewart, J. A., Tanner, C. A. H., Warick, Wm, Wilson, O. M., Wilson, T. R., B.A., Wood, H. G., Wright, G. A., Yorston, F. P. M.A.

Third year prize man—H. C. Mersereau, Doaktown, N.B.

Sutherland medalist—J. H. MacDermott, Gordontown, Jamaica, B. W.I.

McGill Medical Society, Senior prizes—First prize, V. L. Miller, B.A.; second prize, J. A. Nutter, B.A.

Honors in aggregate of all subjects—1. H. C. Mersereau; 2. J. H. McDermott; 3. H. A. Leslie; 4. F. J. Tees, B.A.; 5 H. C. Burgess; 6. F. A. C. Scrimger, B.A.; 7. G. F. Moffatt, B.A.; 8. T. R. B. Nelels; 9. W. Dykes; 10. J. D. McLean; 11. J. A. C. Tull; 12. J. A. Munro; 13. E. T. F. Richards; 14. H. S. Muckleston, M.A.; 15. J. W. B. Hanington; 16. E. H. Henderson, B.A.; 17. A. Cumming, B.A.; 18. B. W. Robertson; 19. J. H. Mason; 20. W. G. Pruyn, B.A.

Besides these the degree of B.A. was granted to Messrs. T. A. Lomer, A. B. Chandler and Fraser B. Gurd, who are pursuing a double course in the faculties of arts and medcine, and the degree of B. Sc. (Arts) and B. Sc. (Science) respectively to Messrs. J. S. McDiarmid and M. B. Atkinson.

Special diplomas of public health were granted to Drs. F. C. Douglas and John A. Lundie, B.A.

The McGill Medical Society junior prizes have been won by F. J. Tees, first prize, and R. J. Monahan, second prize, both of Montreal.

Second year prize man—R. S. MacArthur, Summerside, P. E. I.

Senior Anatomy prize—J. W. Turnbull, Springhill, Ont.

Honors in aggregates of all subjects—1. MacArthur, R. S.; 2. Lomer, T. A.; 3. Turnbull, J. W.; 4. Shaw, R. McL., B.A.; 5. Crowe, H.S., B.A.; 6. Williams, C. S.; 7. Hunter, A. W.; 8. MacDonald, P. A.; 9. Fraser, D. R.; 10. Weldon, R. C., jr.; 11, Sheahan, J. J.; 12. Gilles, G. E.

First year prize man—R. M. Benvie, Salt Springs, Pictou, N. S.

Junior Anatomy prize—R. M. Benvie, Salt Springs, Pictou, N.S.

Honors in aggregate of all subjects—1. Benvie, R. M.; 2. Peters, H. Lew, B. A.; 3. McNab, N. A.; 4. Whitelaw, W. A.; 5. Farris, H. A.; 6. McLennan, A. L., B.A.; 7. Lannin, G. E. J.; 8. Thomson, J.W.; 9. Healy, J. J.; 10. Porter, J. F. S.; 11. Rublee, O. E., B.A.; 12. W. F. Edwards; 13. Trufant, L. H, A.B.: 14. Landry, A. R.; 15. Logie, F. G.

LAVAL UNIVERSITY MEDICAL GRADUATES.

The names of the graduates who have succeeded in winning the degree of M.D. are given below. The honor lists, including those students who have attained to the highest standing in the various classes of the fourth year, are given first.

Attained the degree of M.D. winning first-class honors—Belanger J. E. Cousineau, J. A. Demers, Albert Lubel, Hyacinthe.

Attained the degree of M.D. with second-class honors—Dube Ls. Felix; Dufresne, Eugene, Desmarais, Henri; Grenette, J. A.; Martin Auguste; Meunier, Joseph; Malcheloose, M.; Monette, Francis; Parisian; Leo; Parisian, W.

Passed for the degree of M.D.—Bouin, Adrien; Beauregard, G. E. Chapron, Philea; Chagnon. D.; Choquette, Alfred; Desnos, Louis; Desaray, Charles; Dupuis, Zephirim; Foley, Joseph; Gagner, Emmanuel; Gagnier, Rodrigue; Gaudet, Lucien; Gatien, J. A.; Gravelle, James; Herbert, Oswald; Landry, Eugene; Labelle, Emile; Lachaine, Edmond; Landry, L.; Lachance, F.; Marcil, Alfred; Pelletier, Antoine; Poirier, Armand; Renaud, L. H.; Vamdamdaigne, Isaac.

BISHOP'S MEDICAL COLLEGE.

The medal, prize, honor and pass lists in all final sessional examinations of the fourth year in the faculty of medicine at Bishop's Medical College are announced as follows:—

Medalists—Wood gold medal, T. J. Donnelly, fourth year.

Nelson field medal—J. J, McGovern, fourth Year.

Chancellor's prize—F. W. Watier, fourth year.

David silver medal—S. L. Lucas, second year.

Anatomy prizes—F. E. Norton, first year; F. J Mullen, second year

Histology prize—S. L. Lucas and F. Gavin, second year.

The following have successfully passed and are entitled to the degree of M. D., C. M.:—R. F. Barrett, Montreal; G. N. Briggs, Montreal; H. W. Byers, Montebello, Que.; C. F. Crutchlow, Montreal. T. F.

Donnelly, New Carslisle, Que.; F. J. Garraty, Richmond, Que.; B. A. MacGregor, Fournier, Que.; J. J. McGovern, Richmond, Que.; F. W. Watier, Montreal; A. E. Wilson, Montreal.

MANITOBA MEDICAL COLLEGE GRADUATES.

M. D.—George Arlington Brown; Alex. Murray Cambell, B. A. Spurgeon Campbell; Nelson George Cooper; James Archibald Hamilton, John Power Howden; Fred Inglis, B. A.; Percy Herbert Miller; Robert Ernest Monteith; Sidney James Shepard Peirce, B. A.; Daniel Norman Ross; Andrew J. Slater; William Turnbull; Harry Jackson Watson.

C M.—Alex. Murray Campbell, B. A.; Nelson George Cooper; James A. Hamilton; Percy Herbert Miller; Sidney J. S. Peirce, B. A.; William Turnbull.

Scholarships

Third Year—George Hector Craig, B.A., $80; Herbert Samuel Sharpe, $50.

Second Year—William Alex. Cluff, $80; Wm. Wesley Lorne Musgrove, $50.

First Year—Fredk. William Andrew, $80; Andrew Pritchard MacKinnon, $50.

FIFTH YEAR IN QUEEN'S.

A change is desired by Queen's medical faculty in the regulation of the Ontario Medical Council regarding the fifth year work at medical colleges. At present only students who get positions are exempt from a special fifth year course of lectures and demonstrations. Queen's desires that this be changed and that any medical graduate be entitled to try the final council examination who has been a house surgeon for a year or has served a year with a qualified practitioner or has attended clinics in a recognized hospital for at least a year.

QUEEN'S MEDICAL FACULTY.

At a meeting of Queen's medical faculty it was decided that the matriculation standard of the Ontario Medical Council was high enough at present. A lawyer will be appointed to give a series of lectures in connection with the subject of medical jurisprudence.

The Canada Lancet

VOL. XXXVII. JULY, 1904 No. 11

EDITORIAL

MEDICAL EDUCATION.

Much has been written and said upon the subject of medical education. With all our colleges and hospitals and qualifying bodies, it is bound to be a live topic, and, like the poor, will be ever with us.

One of the topics of much interest is the degree of preliminary education that should be imposed upon the student, prior to his entery upon his professional studies. Many think that an arts standing should be exacted. There can be no two opinions upon the subject. The degree of general education should be good. It will be of the utmost value to the student himself to be compelled to possess a liberal knowledge of the fundamental subjects of general culture. Such knowledge will aid him throughout life in his distinctively professional studies.

It is incumbent upon colleges to demand of their students a becomingly high standard of character. It is much better that a student be arrested in the early part of his academic career than that he be allowed to proceed to a degree and then meet with failure, because of some serious defect in his character. The medical profession should be only for those who can do it honor. The *British Lancet* a few years ago contended that the sifting in the first two years should be thorough and searching.

The balance between the scientific work of the first two years and the clinical work of the second two years in Canada is as good as in any other good country in the world. Most of the provinces throughout the Dominion are adopting a five years' course of study—the first two to the scientific subjects, the second two to the practical and clinical subjects, and the fifth year to hospital work or practice with a doctor.

With regard to hospital experience there is room for much improvement. It is the cry from most of the cities where colleges are located there is a dearth of material. But it must be admitted that much valuable material is not being utilized at all. The medical staff of the medical colleges cannot possibly also be the physicians and surgeons to all the hospitals. Professor Osler made the happy suggestion last fall at

the opening of the New Medical Buildings in Toronto that arrangements should be made with the various hospitals, not only in Toronto, but in other cities and towns, whereby they would take groups of the students and afford them the use of the material in these hospitals. Get rid of jealousy, and this plan can be worked out to the advantage of the colleges, the students and the hospitals.

By such a plan the students would be brought into contact with a wide range of opinion and methods of work, both medical and surgical. It would go a long way to enlarge their interest in the study of their professional work, and it would bring many of the hospitals of the country into living touch and sympathy with the various colleges. It would have a stimulating effect on the hospitals also. We hope to see something done along this line soon.

A few years ago, it would have been practically impossible to have thought of trying the experiment of starting a post-graduate course of instruction. But times have changed. Some of that rare cement, which Dr. Osler spoke of and which is able to bind men together, was found. As a result, the two medical colleges became one, jealousies disappeared on better acquaintanceship, and this year a very successful post-graduate course was inaugurated in Toronto. The same thing may just as well be done in other cities.

THE ONTARIO MEDICAL ASSOCIATION.

The 24th meeting of the Ontario Medical Association was held in Toronto, June 14, 15 and 16.

In the first place we notice that the attendance was not large. About 180 members registered, or about 5 per cent. of the practitioners of the Province. But, small as the attendance was, there were only 27 from points outside of Toronto. This is an unpleasant feature of these annual gatherings, and if there be any cause for it, it should be sought out and remedied, if possible.

With regard to the reading of papers, a glance at the programme shows that 28 were contributed by Toronto doctors, and 16 by those from outside the city.

As to the papers themselves no fault could be found. They were of such a high standard of excellence as would have done credit to any medical society, and it is a matter for regret that there were not a larger number present to benefit by hearing them or to take part in the discussions.

It is a very difficult matter, indeed, to arrange a programme to suit all, and we know how diligently the committee on papers worked to

secure good papers and addresses, and to kindle an interest in the association throughout the Province.

Nor is the committee on arrangements deserving of less praise Everything went off well. The luncheon, the concert and automobile drive were very much enjoyed.

We certainly think that an effort should be put forth to have the transactions published in book form. We believe that it would be a great incentive to the profession to keep in touch with the work of the association and pay the annual fee, or purchase the volume at such a price as would pay for the cost of the same. In this way the work of the association would have a wide and permanent usefulness which it does not now possess. Its proceedings are scattered among a number of medical journals. but have no distinctive value in this form. The papers might be published in these journals, but they should also appear in book form.

DECIDUOMA MALIGNUM.

A number of terms have been applied to this disease, such as chorionic epithelioma, sarcoma deciduo-cellulare, cyncytioma malignum, and carcinoma cyncytiale.

The chorion is a foetal structure, and consists of two layers, an nner connective tissue one, and an outer epithelial. From this foetal structure numerous projections arise, known as the chorionic villi, and containing much epithelium.

Deciduoma malignum has been regarded by some as a sarcoma and by others as a carcinoma. The latter view is the one now generally accepted as correct.

But it is worthy of note that this very malignant form of epithelial cancer of the uterus arises from a diseased condition of the epithelial cells of the chorionic ville, a foetal layer of epithelium. Thus we have a malignant degeneration of the foetal epithelium extending into the maternal tissues, and producing there a very malignant form of epithelioma This is a genuine instance of one person being infected by another.

Another feature of this form of epithelioma is that it is spread freely by the blood vessels, and metastases may be found in other organs especially in the lungs. The reason for this vascular form of metastases is that relationship of the blood vessels in the uterus to the chorionic villi.

One more feature is also held as established that the disease always follows a pregnancy which may go on to term, or be lost prematurely, or result in a hydatidiform mole. It has also been observed that many cases of hydatidiform moles end in deciduoma malignum.

PERSONAL AND NEWS ITEMS.

Dr. F. D. McGrattan, of Port Perry, was married June 29th to Miss Jenkins, of Toronto.

Dr. Herbert Ellerslie and Miss Annie Bonnar, both of Bolton, were married on June 6th.

Dr. Henry C. Wade, of Bracebridge, was married, June 1st, to Miss Fenwick, of Toronto.

Dutton has a new doctor in the person of Dr. W. T. Hamilton who comes from Stratford.

Dr. S. Cowans and Miss Lillian May Fitzsimmons, both of Brockville, were married on 16th June.

Dr. J. W. N. Shepherd, of Victoria, B. C., and Miss Wallaston, were married in the early part of June.

Dr. H. F. MacKendrick, of Galt, has gone to Britain for a post-graduate course in Edinburgh and London.

Dr. Lelia Davis has removed from 189 College Street to the Alexandra Apartments, University Avenue.

Dr. Carscadden, one of the veteran physicians of the County of Elgin, had a severe illness during the early part of June.

Dr. Jameson, of Durham, recently sustained a painful accident to his ankle by having to jump from his buggy to save himself.

Dr. W. P. Caven and Mrs. Caven of Gerrard street east, Toronto, have left for England, and will return the first week in August.

Dr. M. James, M.P.P. for Nipissing, who has been very ill for several weeks, has now almost entirely recovered, and is able to get out.

Dr. Price Brown sailed from Montreal for Liverpool on the 1st inst He expects to return from Europe during the first week in September

Dr. and Mrs. Robertson, of Ottawa, have gone on a trip to California and British Columbia. En route they will spend a week or two at the World's Fair, St. Louis.

Dr. Goodwin, of Elkhorn, Man., has returned from his trip to Britain. He spent considerable time in professional studies in several of the large British hospitals.

Dr. L. Secord, of Brantford, who has been for the past seven years Medical Health Officer to the Six Nation Indians, has sent in his resignation to the Department. Dr. Secord will in future devote all his time to his professional work in the city.

Dr. Homer McLay, who for the past two years has been clinical assistant at the asylum, London, has severed his connection there and will engage in practice. Before leaving he was presented with a purse and an address expressing gratitude felt for many kindnesses shown by him during his stay there, and regret at his departure.

The main object when a physician desires to sell his practice is to do so with the least publicity possible so as to avoid injuring his practice in case a sale is not made. In order to do this every prospective purchaser before receiving the name and address of the vendor should be bound legally and morally as to honorable dealings and strict secrecy and not to offer opposition in case a sale is not made. These data have been worked out thoroughly by the Canadian Medical Exchange which has been conducted by Dr. Hamill for the past 10 years and we cordially recommend the same to our readers when they are thinking of making a change of residence.

OBITUARY.

C. W. CHAFEE, M.D.

Dr. C. W. Chafee died at his residence, 614 Spadina avenue, on the morning of 26th May, of a heart affection, which had afflicted him for over a year. He sought relief, but in vain, by a trip to Bermuda, and also to Scotland. He was a son of the late I. M. Chafee, at one time a prominent merchant of Peel County, and is survived by a sister, Miss Chafee, and a brother, Rev. A. B Chafee, of Coboconk.

C. L. COTTON, M.D.

Another instance of the risks to which the surgeon is exposed in the practice of his profession is the death of Dr. C. L. Cotton, of Cowansville, Que., at the General Hospital in the town. Dr. Cotton, in an operation, wounded himself slightly on the finger with a needle. Blood poisoning set in, resulting in the removal of Dr. Cotton to the hospital, where he expired June 15th. Dr. Cotton was one of the best known men in the Eastern Townships.

V. H. MOORE, M.D.

Dr. V. H. Moore died suddenly on 8th June. He had been ill for months, but his condition of late had seemingly improved, and he was seen on the street every day. The end came in a stroke of paralysis. The doctor was born near Brockville on Feb. 4th, 1848, of Irish parentage. He was a graduate of Queen's, and in 1890 was given a fellowship by the Royal College of Physicians and Surgeons. For years he had been a member of the Medical Council, and in 1889 was Vice-President, and in 1890 President of the College of Physicians and Surgeons of Ontario. At his death he was still a member of the Medical Council. Up till within a short time he was surgeon of the 41st Regiment, and took a deep interest in military matters.

T. B. WADE. M.D.

Dr. T. B. Wade, of Port Maitland, N. S died recently from overwork. He was a popular and successful physician, and leaves a widow and five children.

C. P. CAMERON, M.D.

The death occurred at Westville, N.S. 26th May, of Dr. C. P. Cameron, from pleurisy and complications from blood poisoning. He was most popular in the community, where he has practised for the past year. He was twenty-five years of age, and a graduate of Dalhousie. The body was taken to his home at St. Peters (C. B.), for burial.

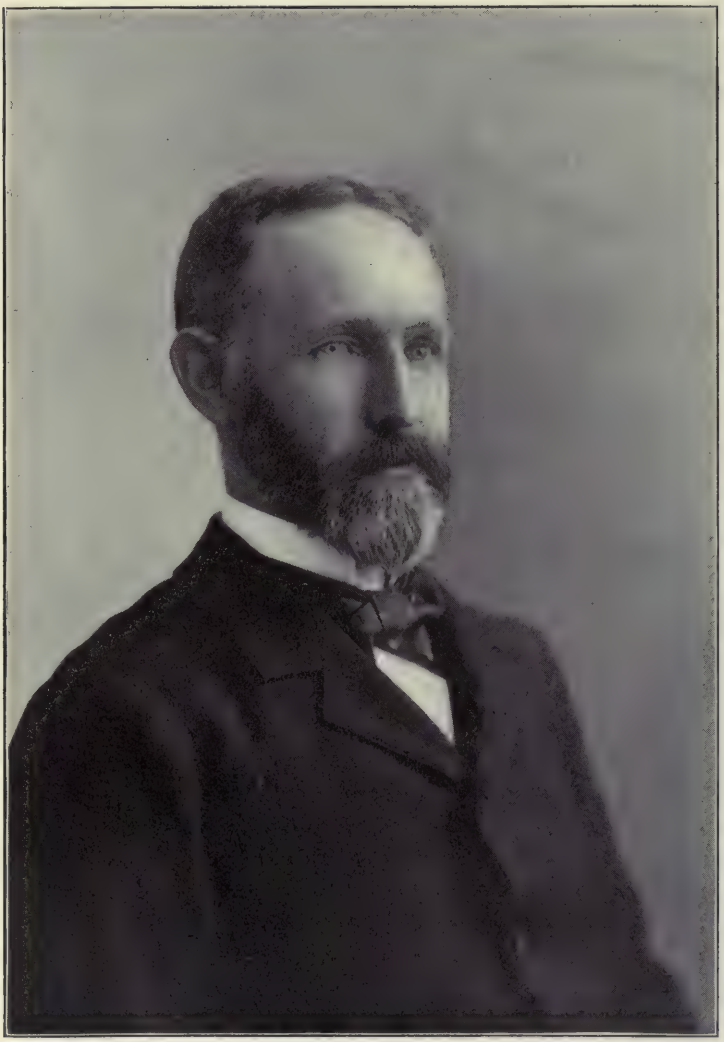
ROLLO CAMPBELL, M.D.

The announcement of the death of Dr. Rollo Campbell, while not unexpected by those acquainted with the severity of his illness, came as a shock lately to a large circle of friends. Some four weeks ago Dr. Campbell was taken ill with typhoid fever, and was removed to the Western Hospital. Dr. Campbell was the eldest son of Dr. F. W. Campbell, Dean of the Faculty of Medicine of Bishop's College. He was forty-one years of age. He graduated from Bishop's College in 1887 then spent one year in Europe, and, shortly after his return, became demonstrator of anatomy, and afterwards professor of anatomy, in the same college. He subsequently became lecturer on surgery, which office he held at the time of his death. He was surgeon-major of the Royal Scots, and took an active interest in the affairs of the regiment. He was looked upon by his fellow-practitioners as an exceptionally able physician and surgeon, and he had built up a very large practice. Dr. Campbell was married nine or ten years ago to Miss Fletcher, who with two children survive him. The funeral which was a military one, took place on Thursday afternoon 2nd June, from his late residence, 50 Mackay Street.

GASPARD ARCHAMBAULT, M.D.

The death of Dr. Archambault, a well known Montreal physician, occurred at his home, 377 St. Denis Street, 14th June.

He was born at L'Assomption, Que., on January 15th, 1851. His father was Camile Archambault, Notary, of the same place. He attended St. Mary's College, and studied medicine at the Victoria University, from which he graduated with honours in 1873. In 1879 he was appointed attending physician at the Sisters of Providence Dispensary and at the Hotel Dieu Hospital, and professor of dermatology at Laval University. In 1878 he was married to Miss L. Papin, daughter of the Hon. Joseph Papin, M.P. By his death Montreal loses a talented, honest and devoted citizen.



SIMON T. TUNSTALL, B.A., M.D., VANCOUVER, B.C.,
President Canadian Medical Association, 1904.

The Canada Lancet

VOL. XXXVII. AUGUST, 1904 No. 12

NEWER METHODS OF DIAGNOSIS OF KIDNEY CASES AS APPLIED TO RENAL SURGERY.*

W. A. HACKETT, M. B.

Professor Genito-Urinary Diseases in the Michigan College of Medicine and Surgery, Detroit, Michigan.

I APPRECIATE the honour conferred on me, in being allowed to present a paper before this representative Medical Society of my native Province. Whilst there is practically nothing original in this essay, your attention is called to some of the newer methods in diagnosis of kidney diseases, which have been introduced since 1885, and which aid us in telling whether it is safe to operate, or not on a diseased kidney.

Cystoscopy, or inspection of the interior of the bladder, is performed by two kinds of instruments ; one perfected by Nitze, Casper, and Leiter, containing a lens system and using water in the bladder, and the other variety by Howard Kelly and others, in which the bladder is filled with air. It is possible to tell, whether there is any inflammation or ulceration of the bladder mucosa and also the number, position and appearance of the ureteral openings. Sometimes there is only one kidney and one ureteral orifice. The urine is seen to spurt from the ureteral openings, and this spurt may appear clear, cloudy, bloody or purulent. Much information may be gained about the activity of the kidneys by watching the contractions of the ureteral ends, the spurting of the urine and the intervals between them.

Halban observed tears in the ureteral opening after a ureteral stone had passed.

In tuberculosis of the kidney, the cystoscope often shows a tubercular process around the mouth of the ureter. If blood is seen to escape from one of the ureters, that will assist in making a diagnosis between vesical and renal hæmorrhage.

Methylene blue tinges the urine green, which can be recognized in the

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*Read at the Ontario Medical Association, June, 1904.

case of a normal kidney in 15 to 30 minutes after taking the drug by the mouth. If we have to wait 60 minutes or longer before one ureter emits tinged urine, then we know there is disease on that side. (Ackard & Castaigne, 1897).

Vœlcher & Joseph, inject 16 centigrammes of indigo-carmine into the gluteal muscles, and in normal cases, the urine is tinged purple in 15 to 30 minutes. They state that this drug is excreted entirely by the kidneys and is harmless.

In their latest report (1904), Hofmeyer agrees with their views and the advantages of chromo-cystoscopy are stated as follows:—

(1) Intensity of the color is seen to vary.

(2) Ureteral whirl may be seen going down towards the base of bladder or upwards, indicating a difference in the specific gravity.

(3) The opening of ureter may be covered with ulcerations and the only way to find the orifice is to watch for the colored spurt coming out.

The same authors give iodide of potassium by the mouth and fill the bladder with a weak solution of peroxide of hydrogen, containing starch. The urinary spurt becomes bluish as soon as potassium iodide begins to be excreted. These tests aid us in determining whether the kidneys are functionating properly or not.

It is evident, however, that if the urine can be obtained separately from each kidney, without being contaminated by pathological elements coming from the ureters, bladder or urethra diagnosis will be less difficult. There are two methods of accomplishing this, viz., ureteral catheterization and segregation. It is unnecessary at this time to discuss the instruments used for catheterization of ureters, their mode of sterilization, application, etc. Some prefer water dilatation of the bladder and others the air dilatation. From my brief experience in the work, I prefer the water dilatation and the use of a Brenner, or a somewhat similar cystoscope with a lens system, permitting exact and direct images. No matter what instrument is used, all of us will fail at times to catheterize the ureters. Ureteral catheterization is becoming more popular, but at the same time requires much skill and patience. Very few, if any, authentic cases of infection of the ureters follow catheterization. The catheters may become plugged with blood, etc., preventing the collection of urine. Ureteral catheters spoil readily, making the method expensive.

Segregation has for its object the collecting of the urine from each kidney separately without the use of ureteral catheterization. The principle of the segregator perfected by Neumann, Harris and Down, is to raise the centre of the posterior wall of the bladder up, with the aid

of an elevator in the rectum or vagina, and then draw off the urine with catheters, separately, from the divided parts.

Luys and Cathelin have designed an intra-vesical segregator, which divides the bladder into two halves, by the use of a thin rubber membrane, stretched over a spiral spring. Keen has used this kind with success.

Harris says, however: "After quite an extensive experience with the segregator, I can state that its intelligent use in suitable cases furnishes results which are reliable and gratifying. It should be used in connection with the cystoscope."

Segregation does not supplant entirely catheterization of the ureters, as there are cases in which the latter is more suitable, but that it does have a very useful field is certain. As many of the diseases of the kidneys require surgical operations for their cure, or even that one of the organs be sacrificed entirely, the necessity in the latter case of being able to estimate the functional capacity of the remaining organ became at once apparent, for upon this point depends the life or death of the patient.

Before the days of ureteral catheterization and the segregator, the determination of this point was practically beyond our power, unless we opened the peritoneum for digital examination of both kidneys, but now by an examination of the separate urines, we are able to determine the amount of work done by each organ with almost mathematical precision. In order to do this, it is necessary to take into consideration, when examining the urines, the time occupied in their collection, the amount collected from each side, the body weight of the patient, the diet and the amount of solids, such as urea, chlorides, etc.

Some of the objections to segregation are:—

(1) There may be ulceration of bladder and urine is contaminated.

(2) Segregators cannot be used when the bladder is much contracted, when bladder tumors of any size exist, or when the prostate is much enlarged.

(3) The Segregator cannot be left in much over an hour.

(4) The ureteral openings are usually close to the median line. Kümmell tells of a case where the right kidney had been removed and yet with Luys' Segregator, the urine escaped from the right side.

Albarran, lately made a number of comparative examinations on the kidneys of dogs, and found the left kidney 15 to 20 grammes heavier than the right. He says that the longer the urine was collected from each kidney, the less the difference, and from a study of the anatomy,

physiology and pathology of the kidneys, they are organs of the same kind, but not symmetrical.

Nicolict reports a novel method, which he has employed with success in three suitable cases.

The patient rests for a few hours and the bladder is emptied. He uses abdominal massage over one kidney, collects the urine and bladder is washed; then the other kidney is massaged and urine collected.

Collecting the urine separately from each kidney is certainly the greatest achievement introduced into this field of work. For example in tuberculosis of the kidney, if a nephrectomy is to be done, which kidney is tubercular and what is the condition of the other? These questions may be decided by examining the urine obtained separately from each kidney by the use of the ureteral catheters. If a tubercular process be visible around the ureteral opening, then it is unnecessary to catheterize that ureter, as it no doubt leads to a tubercular kidney. Catheterization of the opposite and apparently healthy kidney is, however, indicated and the urine so obtained, examined chemically, bacteriologically and microscopically. These "older" methods of examining the urine should not be discarded, but used in every case.

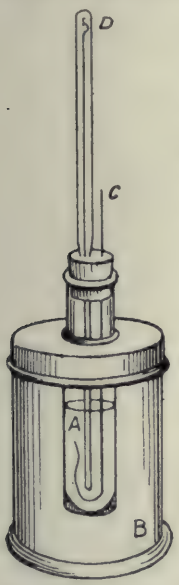
Cryoscopy (cryos-frost) was suggested by De Coppet, in 1871. He pointed out the interesting fact that when a molecule or a definite part by weight of any substance is dissolved in a definite quantity of distilled water, the freezing point of the solution is always lowered to a definite degree: or in other words the lower the freezing point of a solution, the greater the concentration.

Raoult developed this idea in 1882, when he published the first systematic work on the subject of cryoscopy. This was not made use of in medicine until 1898, when Koryani, of Budapest, saw the value of this method in diseases of the kidney.

Cryoscopy of the urine has no value, except as compared with the blood. By the examination of a great number of normal cases, the urine has been found to freeze at from —0.9° to —1.8° cent. and when the molecular concentration diminishes sufficiently to cause a freezing point above —0.9°, it is an indication of renal insufficiency. When renal insufficiency exists, waste produots are retained in the blood and its freezing point is lowered. The normal freezing point of blood varies slightly between —0.57° and —0.55°, the normal being taken as —0.56° (Dreser).

Barth says: "The freezing point of the urine from diseased kidney is less than that from the sound or partially diseased, and the greater the difference, (one side being near normal) the greater the pathological process on the diseased side."

The apparatus used for the determination of the freezing point is that of Beckmann:—



It consists of an outer jar, B, in which the freezing mixture of ice and salt is placed. Suspended in the jar is the tube, A, and projecting into this is a wire stirring-rod, C, and a thermometer, D. This thermometer is graduated in one-hundredths of a degree centigrade, usually from one degree above to four derees below zero. The scale is sufficiently coarse to allow of the reading of 1-200 of a degree.

Heidenhain's modification differs only in having an extra tube around the tube A, thus providing an air space between the liquid to be tested and the freezing mixture, so that the cooling will be more gradual. There is also a somewhat simpler apparatus in which the freezing is done with carbon dioxide gas.

Before using the thermometer it must be tested by taking the freezing point of distilled water, and any variation from the zero point noted, subsequent reading being corrected by this difference.

The ice and salt, in large pieces are placed in the jar in alternate layers, and from 10 to 20 cubic centimeters of the fluid to be tested poured into the inner tube. While the solution is cooling it is constantly stirred by means of the rod, to insure a thorough mixing and a uniform temperature throughout. The mercury at first sinks below the freezing point, but as coagulation takes place it again rises and the freezing point read.

In testing the urine, Claude uses a portion of the mixed 24 hour amount; while others use a fresh specimen from each kidney. Blood for the test may be withdrawn from one of the large veins in the arm, by means of an aspirator, about 10 c c being required to determine the freezing point.

Lindermann finds that there is no deviation from the normal freezing point so long as the suppurative process is limited to the bladder and pelvis of the kidney, but as soon as the parenchyma of the kidney is involved, there is a deviation at once i. e., the freezing point of the urine is higher than normal and approaches that of distilled water. There is also a change in the freezing point of the blood if the kidneys are affected to a pronounced degree and the blood will freeze lower than normal i. e., below —0.56° centigrade.

Moritz's investigations are also valuable, as he was able to study the pathological conditions of the kidneys after death in all of his cases. He had studied the freezing points of the urine and blood for weeks before the patients died. Claude and Balthazard, Casper and Richter, and others have reached conclusions practically identical.

Kümmel and his assistant Rümpel, are very enthusiastic in advocating the use of cryoscopy in renal surgery. Kümmel reports a series of 245 cases, which includes nearly every pathological condition of the kidney in which surgical interference could be considered. It includes cases of renal stone, tuberculosis, perinephric abscess, hydronephrosis and pyonephrosis, movable kidneys and tumors of many kinds. He gives his experience in his latest publication, 1903, and states that his faith in cryoscopy as a means of diagnosis remains unshaken. In over 500 determinations of blood and urine, cryoscopy has not disappointed him once, and it is of the greatest value, when used in relation to surgical diseases of the kidneys.

Kümmel claims that the differences in the results obtained by recent writers are due to errors in technique. He does not rely alone upon cryoscopic examination in any case, but employs it in connection with the usual methods as a supplementary test.

Before the introduction of cryoscopy of the blood and urine and ureteral catheterization, the surgeon was in constant fear after every nephrectomy, until the danger period had passed, lest the other kidney be unable to carry on the function of elimination properly or become incompetent as a result of the operation. At that time, the mortality was 16 per cent. or more. Since using the newer methods of diagnosis, Kümmel has not lost a single case in 72 operations, where the evidence showed that he was on the safe side.

Tieken, who has made over 500 estimations of the freezing point, says that when we have exhausted all the usual methods of examination and are still in doubt, we should make a careful cryoscopic examination of the blood and a specimen of urine obtained from each kidney separately, by ureteral catheterization or by the use of some good segregator, and then be governed accordingly as the results may indicate. He usually advises against operative interference in a kidney lesion when the freezing point of the blood showed a concentration far beyond the danger point.

I hope to report at a future time, on a series of cases where cryoscopy has been used.

Phloridzin Test, another aid in determining the functional activity of the kidneys, is the comparative estimation of the amount of sugar

eliminated by each, during a given time following the administration of .005 phloridzin hypodermatically. In 15 minutes, if the kidney is functionating normally, a temporary glycosuria occurs. The test for sugar may be made with the catheters inserted. This glycosuria does not occur so quickly nor in such large amounts in a diseased kidney, nor in one which is not functionating properly.

Another method for the estimation of the sufficiency or insufficiency of the kidneys has been brought into experimental use. It is the electric conductivity of the urine and can be carried out readily and with small quantities of urine. It gives comparative figures with cryoscopy and depends also on the inorganic molecular concentration of the urine.

Engelmann, after making a series of experiments in Kümmel's laboratory, reported last month as follows:—

(1) The freezing point of blood in healthy persons varies within certain limits *i.e.* from —0.55° to —0.58° and the concentration of the urine, in health, is subject to daily changes.

(2) Increase of the concentration of the blood over normal is a sign of beginning insufficiency of the kidneys and means disease of both kidneys, unless some severe disease, as advanced cancer be present elsewhere, causing disturbances of the circulation. Other diseases as a rule and unilateral affections of the kidney do not change the freezing point of the blood. Large tumors in the abdomen do not change the freezing point of the blood.

(3) The electrical conductivity of the blood serum is not changed by insufficiency of the kidneys. Always in acute uræmia, and generally in chronic uræmia, the freezing point of the blood is considerably increased but the values for electrical conductivity do not go above normal. After intravenous infusions of normal saline solution, the osmotic pressure of the blood returns in a few minutes to its original condition.

(4) In the beginning of a disease of one kidney, even when other clinical symptoms are absent, differences in the concentration of the separated urines can be found. Also the electrical conductivity shows the same differences as the cryoscopic values.

The x-rays have been of service in this work, during the past three years. McArthur, Leonard & Bevan were the first in America to demonstrate skiagraphs of kidney stones, which were later verified by operations. A skiagraph negative as to stone does not prove the absence of a stone, yet a positive skiagraph, which shows one or more stones is invaluable to the surgeon.

Schmidt reports a case where he injected oil, through a ureteral catheter, into the pelvis of the kidney and a stone escaped afterwards.

Kolischer and Schmidt have adopted a unique method, which consists in the passage of a lead bougie into the ureter as far as possible and then while in place, a skiagraph is taken. By this method, the course of the ureters can be determined, the location of the renal pelvis, whether dilated or not, and the exact topography of renal calculi can be determined. It aids in differentiating gall stones from renal stones.

Kelly had designed wax tipped bougies, in order to locate ureteral stones, which produce markings or scratchings on the wax.

I believe that these newer methods are beginning to, and should to a great extent, take the place of exploratory operations on the kidney, so that now the surgeon may be almost positive of his diagnosis before operating. If this resumé shall be the means of arousing the interest of some of the members of this Society in these methods, I will be amply repaid for the time spent in preparing it. My thanks are due to Max Ballin for assistance in translating.

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LITHOTOMY *VERSUS* LITHOLAPAXY.*

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THE subject of stone in the bladder, notwithstanding the fact that it has been so often discussed, is of great interest to the surgeon, who is always inclined to give a favorable reception to any suggestions which may help to throw any light on the subject.

There are certain parts of the globe where stone is very prevalent, such as the north-west of India, the delta of the Nile, east Anglia, and, on this continent, the Mississippi valley, while in other countries of the world stone is only occasionally met with, or indeed, is almost unknown.

In a review of the literature of the subject of urinary calculus, I have taken advantage of the writings of those who have had wide experience and unrivalled opportunities in dealing with this affection. These include Freyer, Keegan, Keith, and Baker, in India; Milton, in Egypt; Ferguson, Thompson, Harrison, Cadge, and Burton, in England; Guyon, Dittal and Volkmann, in Europe; and Briggs, Cabot, Keyes and Bangs, in America.

No single operation meets the requirements of all cases of stone We have several entirely different methods, each of which has certain advantages and also its own peculiar difficulties and dangers which must be recognized and avoided. The best results will be attained by the surgeon who has a thorough practical knowledge of all methods of operating, and who will study each case by itself, and, in the best interests of his patient, select the operation which best meets the indications and requirements. He will, in this way, obtain better results than are possible to the mere advocate of a special operation however expert he may be in its performance.

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* Read before the Ontario Medical Association, June 14th, 1904.

Where a stone in the bladder is too large to pass *per vias naturales*, one of two methods may be adopted, either opening the bladder through the perineum, or above the pubes; or crushing the calculus, so that it may be removed through the urethra.

The first method, or "cutting for stone," is one of the oldest operations known to surgeons, and dates back before the time of Hippocrates, and, since Celsus with a scalpel alone cut blindly "on the gripe," the operation of perineal lithotomy has undergone many modifications. It was practised by priests and laymen with great success as late as the earlier part of the eighteenth century. To Cheselden, in England, is due the credit of placing the lateral operation on a scientific anatomical basis. He performed 213 lateral lithotomies with a mortality of only 5 per cent. Suprapubic lithotomy was first performed by Pierre Franco, in 1550, but was not recommended by him and was lost to sight for a long time. It was revived in the eighteenth century by Douglas and Cheselden in England, and was frequently practiced during the earlier part of the last century, but gradually declined in popularity, being more dangerous than the perineal route. In 1880 it was again revived by Petersen, of Kiel, who improved the operation by distention of the bladder and rectum with water. To this procedure, and the application of antiseptic methods, the operation owes its present popularity.

In 1818, Civiale published his work on lithotrity. He advocated the crushing of the stone in the bladder, at many short sittings, and left the fragments to be passed with the urine. His first successful operation was performed in 1824, and, although operating with inferior appliances, he demonstrated the possibility of pulverizing stones by instruments introduced through the urethra. Subsequently various improvements were made in the instruments used, until the invention of the modern lithotrite, when the operation reached a high degree of perfection, although the death rate was high.

It was, however, to the genius of Henry J. Bigelow, of Boston, that the origin of "lithotrity at one sitting" or litholapaxy is to be attributed. This occurred in 1878 when he introduced improved instruments, and proposed, under anaesthesia, not only to crush the stone through the urethra, but by a powerful evacuator, to wholly remove the fragments at one and the same sitting.

This procedure was eagerly accepted by the profession. It revolutionized the old operation of lithotrity and up to the present time, has been universally accepted as the best method of treating uncomplicated cases of vesical calculus.

Bigelow showed that the bladder was much more tolerant to instrumentation than was previously believed, and pointed out that the greatest danger of lithotrity was not in the use of instruments but from the subsequent irritation of the bladder by the fragments of stone left in it.

In 1875, Otis, of New York, pointed out that the calibre of the urethra was greater than had formerly been supposed, and this has been found to hold good in children. Notwithstanding the fact that lateral lithotomy had been eminently successful in children, Surgeon-Major Keegan, in India, extended the operation of litholapaxy to males up to the age of puberty, and in the *Lancet* of January 16, 1897, published the following table showing the comparative safety of crushing operations in children:

Nature of operation.	Number of cases.	Average age.	Percentage mortality.
Litholapaxy	509	6.35	2.35
Lateral Lithotomy	267	6.90	5.24

In making a choice of several entirely different methods, it will be necessary to carefully consider various factors, which, in great measure, contribute to a successful issue. These may be arranged as follows: (1) age and mortality; (2) size and consistency of the stone; (3) completeness of cure; (4) the state of the urethra, bladder and kidneys, and (5) the damage done to anatomical structures and interference with the functions of the parts To these must be added the skill and experience of the operator.

Age and Mortality. The mortality of all the stone operations is least in children, and increases with each decade after puberty and cases may consequently be conveniently arranged in three groups according to age: (*a*) infancy to puberty, (*b*) puberty to middle age, (*c*) middle age to old age. This division marks, more or less accurately, certain epochs in the development and decay of the genito-urinary organs.

The following table, compiled from various sources by Cabot, of Boston, for *Morrow's System*, includes the records of many operators, and also embraces Barling's Tables from six large London and six provincial hospitals, but excludes the statistics of surgeons who, by long practice and exceptional opportunities, have become exceedingly expert, as with Ferguson, Cadge and Agnew, in lithotomy; and Guyon, Keith, Keegan and Freyer in the operation litholapaxy.

Group (*a*) Infancy to puberty.

——	Cases.	Deaths.	Percentage mortality.
Perineal Lithotomy	602	19	3.1
Suprapubic Lithotomy	637	84	13.1
Litholapaxy	284	5	1.7

Group (*b*) Puberty to middle age.

	Cases.	Deaths.	Percentage mortality.
Perineal Lithotomy	226	22	9.7
Suprapubic Lithotomy	159	18	11.3
Litholapaxy	485	22	1.7

Group (*c*) Middle age to old age.

	Cases.	Deaths.	Percentage mortality.
Perineal Lithotomy	69	13	19
Suprapubic Lithotomy	91	17	18
Litholapaxy	581	40	7

The above statistics being based on the results of operations performed by various surgeons outside the "stone districts" will perhaps give a truer estimate of the relative mortality than the following table, which represents the returns of operations performed on patients of all ages by experts in India, where the stone is very common.

Operation	Cases	Cured	Died	Mortality
Lateral Lithotomy	7,201	6,407	794	11.02
Suprapubic Lithotomy	147	86	61	42.17
Litholapaxy	10,073	9,665	399	3.96

Keegan, *Lancet*, Jan. 30, 1897.

These figures show that in childhood the crushing operation is one of comparative safety, although there is little to choose between it and the time-honored lateral section. The *sectio alta* is, at this age, much

more dangerous. After puberty, the enlargement of the urethra and development of the prostate, with a consequent increase in vascularity, increase the dangers of cutting operations through the perineum. These changes, however, facilitate the crushing operation, and render the performance of litholapaxy comparatively easy and safe. In old age the mortality is decidely in favor of litholapaxy, being little higher than it was earlier in life, whereas the danger of all cutting operations is markedly increased at this age. This is due to a loss of vigor, the increased size of the prostate gland with its injurious effects on the bladder.

Size and consistency of the stone. The limits as to size, under litholapaxy, are being from time to time extended as instruments become more perfected Stones weighing as much as $6\frac{1}{8}$ ounces, which could not at first have been attempted, have been removed successfully in this way. (Freyer, B. M. J., 1894.)

The hardness of the stone does not now contraindicate litholapaxy, but where a very large or dense calculus is encountered, which defies the powers of the lithotrite, the surgeon will have to resort to one of the cutting operations.

Completeness of cure. That there is a greater danger of leaving a fragment of stone in the bladder after crushing, than after lithotomy is one of the chief objections urged, but this is due rather to a want of thoroughness on the part of the surgeon, than to a lack of completeness in the operation, for with a variety of evacuating cannulae, both straight and curved, in competent hands the chance of recurrence, from retained fragments, is very small indeed. The danger of retention of fragments is, however, greatly increased by any obstruction to the flow of urine, such as enlarged prostate. The bladder is then more apt to be sacculated and the chance of fragments being missed by the evacuator are decidely greater. A healthy bladder would, no doubt, rid itself of such debris.

The state of the uretha, bladder and kidneys. Stricture of the urethra, in any part of its course, is no longer an obstacle to crushing, for it may be first dealt with either by divulsion or internal urethrotomy If, however, an old indurated, tortuous stricture exists, especially if complicated with fistulae; or if the uretha is intolerant of instrumentation and rigors and fever follow any attempt at dilatation, it will be necessary to cut, for this would permit the removal of the stone and the cure of the stricture.

Enlarged prostate does not prohibit litholapaxy if the necessary instruments can be introduced and many brilliant results have been

obtained in such cases, but it may be difficult or impossible to seize the calculus with the lithotrite, and even if the stone be broken, there may be great difficulty in finding the fragments and also the danger of leaving fragments behind while aspirating. Here the supra-pubic operation in the hands of the general surgeon, will be advisable.

In old men with enlarged prostates, the necessary mechanical disturbance attending litholapaxy stirs up the vesical neck so that a cystitis, more or less intense and prolonged, follows the operation. E. L. Keyes, in a paper read before the Med. Soc. N. Y., in 1892, pointed out that "these cases do well under lithotomy and in them the supra-pubic method should be adopted, because it allows the surgeon to deal at a single sitting, not only with the minor necessity—the small stone—but also with the more important and permanent disability—the enlarged prostate—by prolonging the suprapubic lithotomy into a prostatectomy and making the patient's necessity the surgeon's opportunity."

Where the stone is encysted, or lodged in the opening of the ureter, or urethra, and cannot be dislodged, or a concomitant tumor or tuberculosis of the bladder exists, suprapubic lithotomy is the operation of election, for by no other method can both be dealt with. In diseased conditions of the bladder or kidneys, which so militate against the chances of recovery in all operative procedures, or in cases of unhealthy urine arising from either, the opinion of Sir Wm. Hingston of Montreal is to the effect that "the lithotrite is as safe an instrument as the lithotomist's knife. Nor should an attempt at the removal of a calculus by either method be delayed pending an effort—usually fruitless—to improve any of these conditions."

The damage done to anatomical structures and interference with the functions of the part. The especial superiority of litholapaxy to all other methods lies in the fact that, when carefully performed, it involves no permanent injury to the parts, nor does it disturb any physiological function. Its sequalæ are few and rarely serious. Supra-pubic lithotomy causes no permanent trouble, although a fistulous opening sometimes remains, which refuses to heal, and is a constant source of discomfort to the patient. There may be difficulty, in a very fat patient, in reaching the bladder above the pubes, or in obtaining sufficient room to reach that viscus, owing to the close relations of the peritoneum to the pubic bone. Hæmorrhage and urinary infiltration, with consequent sepsis, constitute the chief dangers of the operation. The presence of a wound in the bladder wall may be the cause of adhesions to the abdominal wall, or pubes, and so interfere with the proper contraction of the fibres of the

bladder, or a urinary deposit may take place on the scar and lead to a recurrence of stone.

The lateral operation passes through important structures. Incontinence of urine, fistula, injury to the seminal ducts, sometimes resulting in sterility, are objections urged against this operation. It often involves an extensive incision into the prostrate, or serious bruising of the gland, by the necessary dilatation of the neck of the bladder, and the extraction of the calculus through it, a grave danger in old people. Profuse hæmorhage and injury to the rectum must also be taken into account.

An account of the various operations for the removal of stone would be incomplete without reference to perineal lithotrity, proposed by Dolbeau, in 1862, modified by Reginald Harrison, and described by him in *The Lancet* of Sept. 22, 1888. Mr. Harrison, by a small median incision, opens the membraneous urethra on a grooved guide, digitally dilates the prostatic urethra and neck of the bladder, and then by a giant lithotrite, introduced into the bladder, crushes the stone, and removes the fragments by forceps or aspirator.

In the Bradshaw lecture of 1896, Mr Harrison points out the advantages of perineal lithotrity as follows: (1) It enables the operator to crush and evacuate large stones in a short time. (2) Less risk to life than other cutting operations and is well adapted to the old and feeble, where for any reason crushing is inadmissible. (3) It permits of more effectual washing of the bladder and any pouches connected with it, as the route is shorter and larger tubes may be used. (4) The bladder may be more thoroughly explored by forceps or finger to ascertain that the viscus is cleared of debris. (5) It allows of efficient draining of the bladder by rubber tubes, and treatment of cystitis due to retention of urine in pouches in its walls. This method is also well adapted for the cure of stricture in the deep urethra, when complicating stone.

Perineal lithotrity, no doubt, has a great future, and, on account of its safety, may replace both lateral and superapubic lithotomy. Forbes Keith, of Delhi, India, has operated by this method 157 times, with a mortality of 1.9 per cent. (*Lancet*, Sep. 30. 1893.)

In conclusion, the choice of operation may be briefly summarized as follows:—

(1) Litholapaxy is certainly the operation of election in all simple cases of stone in the urinary bladder.

(2) When the stone is too hard or too large to be crushed through the urethra or removed by the lateral method without injury, the suprapubic method should be adopted, or, perhaps better, by perineal lithotrity.

(3) When the stone is encysted or associated with a tumor of the bladder or prostrate, choose the supra-pubic route and remove both at the same time.

(4) Where there is a tight, deep urethral stricture, especially when fistulæ exist, requiring a long operation to overcome, select the supra-pubic or median perineal operation.

(5) In anchylosis of one or both hip joints, which interfere with the use of urethral instruments, and excludes all perineal operations, do supra-pubic lithotomy.

(6) In the presence of foreign bodies in the bladder and which may form the nucleus of a calculus and resist the lithotrite, perform one of the perineal methods.

(7) Although litholapaxy applied to children is very successful in the hands of experts, for the present, lateral lithotomy is the safer operation for the general surgeon.

(8) Litholapaxy should be carried out, whenever possible, when senile degenerations exist, or when there are morbid changes in the genito-urinary apparatus, and the necessary treatment afforded to the complication, either before, or after litholapaxy.

ORATION IN SURGERY BEFORE THE MINNESOTA STATE MEDICAL ASSOCIATION, JUNE 2ND, 1904.

By ALEXANDER HUGH FERGUSON, M.D., Chicago,
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LADIES and Gentlemen: Standing before this learned body for the first time I am affected by conflicting emotions, by those of pleasure in being with you, and by those of regret at not having been here before. I cannot conceive of a greater honor in the life of any man than that of addressing such a professional body as this Association. To look around this room and behold the smiling faces of distinguished and generous friends would stir to the core a more phlegmatic nature than mine. For the moment I fail to find words that adequately express my appreciation of your compliment. Permit me frankly to say that it was not within the limits of my ambition to resist your kind invitation, not that I had no friends among you, but that I needed more, and also that I might observe the wise injunction that:

> "The friends thou hast and their adoption tried,
> Grapple them to thy soul with hooks of steel."

I am fully aware your Association wields a vast influence and power, not alone in its own State, but also throughout the entire union. Its

deliberations and productions are profitably read, studied and digested by members of similar bodies of many and far-distant States. Not a few of your members have gained international reputation, and, judging from the original and practical papers published year by year by you, there is no doubt in my mind of the valuable legacy that is to be handed down to posterity.

Your high professional attainments, I am sure, forestall any necessity for a lengthy oration from me on surgery. I shall not endeavor to eulogize the surgery of the past, nor have I the time to recite that of the present, let alone speculate on that of the future.

As an active worker and teacher it frequently happens that unsettled questions bearing on etiology, diagnosis and treatment confront me, as they do us all, and it occurred to me I might be borne with should I occupy a portion of your valuable time in briefly discussing some surgical problems and practices.

"There are many events in the womb of time that will be delivered."

The evolution of the surgeon in solving surgical problems out of medical mysteries had its dawn with discoveries, and its development with scientific progress. The progress made in all the sciences collateral to medicine has materially contributed to solve surgical problems, and to apply suitable remedies.

Great and fertile conceptions of the sciences are ever unfolding the all-pervading and mysterious buds of hidden truth that we may, according to unchangeable laws, behold things as they are, and often, too, enable us to predict future changes to a certain extent, to counteract or modify these changes and even develop the evolving materials at hand. Complete as our explanations of different phenomena in human nature may appear, they are only partial explanations at best, for the reason that nature works also by unseen elements and invisible forces of natural selection, of which we know little or nothing. The individual man, woman or child, when stricken by disease or accident, is our special ward, and we are proud to say that the decrease of suffering and death was never in the history of man so marked as now.

As carpenters of human kind, our special office on this earth is the intelligent exercise of that scientific knowledge which bears on the divine art of healing, and it is our sacred and imperative duty to seek that knowledge.

With a full realization of the importance of this occasion I feel that I can trust you to credit me with giving evidence of surgical truths as I see them, and whatever I may lack in lucidity let me entertain the hope that my enthusiasm, which I have never been able to control, and for

which I offer no apology, will be emulated by the younger members of the profession.

Instead of elaborately delving into one branch of surgery, it is my object to extract a little sweetness from several subjects, as the busy bee gets nectar from different flowers, and to present it to you in a palatable way.

Cleft Palate.

The surgical problem connected with the successful closure of a cleft in the hard and soft palate is a mechanical one, to a large degree.

Other things being equal, the operator who has steady and nimble fingers can speedily, accurately and successfully perform plastic operations within the mouth, that baffle one less endowered by nature. In my opinion, there are few operations performable on the human body that test the skill of the surgeon more than urano-staphylorrhapy, and, when properly and deftly executed, it is a most beneficial procedure. It is a fact that one grows fond of difficult cases in proportion to his successful management of them.

In my judgment, the points to be borne in mind in these cases are (1) that no tissue be sacrificed; (2) that the raw surfaces be coapted as broadly as possible; (3) the stitches must not bear tension; (4) in young children, too much operative work must not be done at one sitting; (5) the cleft should be entirely closed before the child begins to talk, in order to obtain a perfect physiologic result. It may be wise to complete the work in different sittings, three to six weeks apart. Even though the case is not treated when young, I advise operation, for the reason, that phonation is always more or less improved, and the unpleasant flow of nasal discharges into the mouth is terminated. The crushing of the two superior maxillae together is a formidable major operation on an infant, and I am constrained to say that at no age, or under any conditions, is it necessary.

A careful selection of the methods of flap formation and the coaptation of these to bridge over the deficiency fulfill all reasonable indications. (See *Journal A.M.A.*, May 16,1900, and *Annals of Surgery* Oct., 1902.)

Superior Maxilla.

I shall now call your attention to the extirpation of the superior maxilla through the mouth.

The usual and old-fashioned incisions inflicted upon the face to give, as alleged ample room for the removal of the superior maxilla, are not necessary, and should be discarded. I am convinced by my own experience that a diseased superior maxilla is more quickly extirpated

through the mouth, with practically far less hemorrhage, and with infinitely better results, than by the prevailing methods. It is but the work of a few minutes to tie the external carotid artery and the dangers from active hemorrhage are anticipated and prevented. This vessel may be ligated a day or two before the jaw is removed. Dilating the mouth, often to the extent of cracking the lips in several places, is a valuable preparation for the operation proper, in that considerably more room is obtained through which to manipulate. If the constitution of the patient permits of it, morphine may be administered to the amount of producing marked drowisness, an hour or two before beginning the operation. It will then be found that less chloroform is required to anæsthetise the patient, as well as a consequent diminution of pain and shock.

This operation has been previously published (*Western Medical Review*, April, 1901). Suffice it to say, that two small incisions are made, each about half an inch long, one over the nasal process and the other over the junction of the maxilla with the malar bone, and through these an osteotome is passed and then forced through the bony attachments respectively, with a few blows of a hammer.

The hard palate and alveolar process are also severed with the osteotome. A few well directed strokes with a strong knife separate the jaw-bone from the cheek and soft palate, after which it is but the work of a minute to dislodge the bone, pack the cavity with iodoform gauze, and the operation is completed. The surgeon who is inexperinced or timid in undertaking this operation should first perform it a few times on the cadaver.

Thyroid Gland.

Another subject that has attracted the special attention of doctors, on account of its enigmatic behavior in health and disease, is the thyroid gland, one of the mysterious ductless glands of the body. Embryologists tell us that it develops from the floor of the pharynx by three anlages which unite (Minot), and has a thyrolingual duct opening into the foramen cæcum, but long before the child is born this duct is closed (closed eighth week, fœtal life). In proportion to the body weight, it is larger in the infant (0.16 per cent.) than in the full grown (0.5 per cent.) Its normal weight in adult life is from 25 to 60 grams, which varies in persons of different countries and sections of a country. It has a capsule, etc., but the two structures most noticeable for their abundance, are the blood vessels and lymphatics. The substance produced by the cubic or cylindric cells lining the glandular follicles, is a colloid material, homogeneous, viscid and albuminous.

It is evident (Piersol) that the blood capillaries come into immediate contact with the gland cells, and the lymphatics, as a rule, contain colloid material. How it gets there is not known, but it is believed by Horsley, Pozzi, Biondi and others, that the follicles open directly into the lymphatic vessels, and thus act as excretory ducts to the thyriod, while others believe that absorption accounts for it.

A prodigious amount of research has been done by Berkley, Wolfler, Sandstrom, Kohn, Edmunds, Hofmeister, Prenant, Pozzi, Horsley, Biondi, and many others, to ascertain an accurate knowledge of its minute anatomy. It was discovered by Schiff, in 1856, that animals could not live without the thyriod gland. A quarter of a century later Reverdin and Kocher demonstrated that operative myxœdema resulted from its total extirpation, and death resulted probably, from toxic paralysis of the centers of respiration.

The existence of accessory and parathyroids no doubt accounts for the contradictory results obtained by different operators and dependent, as they are, upon whether they were all removed or not. Its presence is necessary to the enjoyment of good health and development, but beyond this, the function of the thyroid gland is not known.

The ill effects of thyroidectomy on animals are counter-balanced by the injection of the extract of the gland, or by grafting gland tissue (Schiff). It was Murray (*Br. Med. Jour.*, II., 796, 1891) who applied this discovery to man and found that thyroid preparations ingested and absorbed from the ailmentary canal removed the symptoms of athyrosis. The valuable researches of Baumann, Hutchinson, Ross and Wells on iodothyrin, found in the colloid material in the normal gland follicles, are in the right direction, and by the time the ingredients of the colloid matter in the follicles of the thyroid of exophthalmic subjects are discovered, then, and not till then, can a chemical cure be expected. In the meantime, the surgeon has to remove the gland, for thyroidectomy results in more amelioration and cures of the disease, than any other treatment yet prescribed.

There is a hidden relationship between Graves' disease and the other ductless glands that furnishes a vast field for research. One may be a complement to or a controller of the other.

Exploration.

I shall not bore you with a description of the different methods employed to explore the brain, chest wall, abdomen, and large joints. But, imbued as I am, with a conviction of the value of two modes of procedure, probably new, one to explore the abdomen and the

other for the purpose of bringing into view the interior structures of a knee joint, I am sure you will excuse me for recommending them.

In our daily round of work we meet cases requiring colpotomy, anterior or posterior, to remove myomata, cysts or what-not, and these same cases often give a history of stomach, gall-bladder, kidney or bowel disturbances. An examination of the abdominal organs would be highly satisfactory, although oftentimes, one feels hardly justified in opening through the abdominal wall, for that purpose. The problem is solved by passing the hand and entire forearm into the abdominal cavity through the vagina. In order to furnish enough space for this purpose, it is imperative to cut through the whole length of the mucous membrane of the vagina, on each side post-laterally. The mucous membrane being severed, the other structures stretch at once. The bare arm being smeared over with sterile vaseline, glides in with ease. I have, within the last three years, both in private practice, and at my public clinics, passed my hand through the vagina to the diaphragm and palpated all the abdominal organs. In one case, detecting gall-stones, I cut down upon the gall-bladder, and pushed it, full of biliary calculi, through the button-hole incision. In another case, a cancer of the rectum was present, and before removing it, it was important to learn the condition of the internal organs. I passed my hand as above mentioned, and detected cancer of the liver and gall-bladder.

In still another case, a maiden lady of mature years, the vaginal outlet was so small that a digital examination could not be made without an anæsthetic. I then found cancer of the posterior lip of the cervix. Through an anterior colpotomy I passed my hand, having of course, split the vagina on each side, and found the anterior surface of the stomach involved with a firm hard tumor, evidently cancerous in character, and the lymphatics were also extensively enlarged, no doubt with the same dreadful disease.

For the purpose of pointing out the value of this method of exploring the abdominal cavity, the three cases referred to are sufficient examples, and I shall not relate others. In the first case, a second operation for gall-stones was avoided, and in the other two instances, a major operation was prevented, which, if performed, would surely have injured the art of surgery.

The knee joint exploration simply consists in a long semi-lunar incision into the joint on its external aspect, nicking the patellar tendon at the one end, and cutting the outer half of the sheath of the quadriceps extensor muscle at the other. It is astonishing the facility with which this flap, containing the patella can be thrown inwards over the internal

condyle, and how beautifully it exposes the entire interior of the joint.

The superior advantages of this exposure of the joint are so self-evident that no comments are required. Every facility is afforded for even a complete excision of the joint.

Hernia,

The surgical anatomy, the symptoms. the etiology and the treatment of ruptures of the anterior abdominal wall have been thoroughly studied, and are now fairly well understaod. The etiology of inguinal hernia is still a problem. While it is correct to say that congenital oblique inguinal hernia is usually due to the non-closure of the funicular process at the internal ring, it does not furnish us with an explanation why this process remains patulous in some men and closes in others. When we consider the physiologic process by which the testicle descends from the abdominal cavity to the scrotum, it is not surprising that oblique inguinal hernia is five times more common in the male than in the female, and that over three-quarters of all abdominal hernias are of this kind. In a dissection of five hundred hernial subjects by Cloquet, he found imperfect closure of the internal ring so common, that he deemed it the rule rather than the exception. It is occasionally open, and no hernia protrudes; then it must be that the valvular arrangement of the structures at the internal ring and along the canal is normal, and Cooper's fascia strong and firm. In a perfect anatomic subject the internal ring is so smoothly closed over that an infundibular process of the peritoneum is very insignificant, or not at all perceptible; the valve formation of the internal ring and canal absolutely prevents a giving-away at the internal ring, for the more the intra-abdominal pressure increases, the tighter the valve closes, provided, however, that a normal muscular and aponeurotic support protects it externally to the transversalis fascia.

The two main structures that stand on guard to protect the internal ring are the internal oblique muscle and the aponeurosis of the external oblique, the former being the active agent, ready to contract instantly, the moment the ring is unduly approached by a sudden increase of intra-abdominal pressure, as is done in running, jumping, lifting, etc. The fact is that in oblique inguinal hernia the internal ring receives no substantial protection from the internal oblique muscle for the reason that it is not attached to the internal aspect of Poupart's ligament sufficiently low down, and as it passes downwards and inwards from its deficient origin it passes above the centre of the internal ring.

Indeed, the origin of this muscle may be entirely deficient at Poupart's ligament, and this affords an opportunity for a sausage-shaped

protrusion of a hernial nature in the groin. Is it not probable that this congenital defect of the internal oblique muscle is accountable for the non-closure of the internal ring? If the internal ring is protected during the descent of testicle one should suppose that the muscular tonicity would soon close the course the testicle had taken behind the internal oblique muscle.

The key to the radical cure of oblique inguinal hernia is to suture the internal oblique muscle and its tendon to the inner aspect of Poupart's ligament as low down as possible without undue tension, after first having ablated the sac and strengthened the internal ring with a few stitches above the root of the cord.

Any operation for the cure of hernia that raises the cord out of its natural course is empirical, and empiricism is the very thing that thinking men through all the centuries have been trying to elude. If all our work were done on the plan of expediency the search for truth in the science of surgery would lose its charm, and the art of imitating nature would lose its beauty.

In the anatomic or typic operation the sac is tied off. Why? To restore the rotundity of the peritoneum. The transversalis fascia is sutured nicely around the root of the cord. Why? In order to obliterate a pathologic infundibuliform process, and make a new internal ring. The internal oblique muscle is sutured to Poupart's ligament at least two-thirds of the way down, which is the usual attachment found in the female. Why? That a congenital defect be rectified and the muscle be allowed an opportunity to protect the internal ring, and the aponeurosis of the external muscle is then sutured and the skin coapted so that they may occupy their normal place in this region. It will be noticed that no step is taken without a valid anatomic reason.

(A Typical Operation, etc., *Journal A.M.A.*, April 11, 1899.)

When the hernia is a direct one, or the conjoined tendon deficient, an additional procedure is often required, and that is to split the sheath of the rectus muscle and sew it over to Poupart's ligament, across the weak point. Should, however, the entire inguinal area be deficient, thinned out, atrophied or degenerated, I have not hesitated to transplant a portion of the sartorious muscle to this region.

Fistulae and Methylene Blue.

It has been my practice for some time past to stain all fistulae with methylene blue before attempting their removal, and I have found it of the highest practical value. A branchial fistulae is sometimes difficult to follow with a probe or by sight on account of its small and trail

nature. If, however, methylene blue is forced into it, staining of its lining membrane takes place, and there is then no difficulty whatever in following the blue trail, however serpentine it may be in its course. Take, again, a horseshoe anal fistula, with its friable inner surface and crooked course; how often have we been perplexed in trying to differentiate the limitations of the disease. Methylene blue forced into the fistula just before operating stains it perfectly and defines its extent, thereby the operative procedure is simplified and no more tissue is removed than necessary, such tissue being clearly manifested by the stain.

In several cases of fæcal fistulae when I employed the methylene blue, I was able to trace them with accuracy and ease. Over a year ago I was invited to hold a clinic at Michigan University, and of the cases produced, there was one with three fistulae, two fæcal and one biliary; the bile came through one of the fæcal openings, all following operations for suppurative appendicitis. The methylene blue staining converted what would have been a formidable, tedious and difficult task into a comparatively safe and easy one. The stain followed a small fistula among adherent coils of small intestine to the upper portion of the jejunun, from which the bile escaped, and the clearness with which its course was demonstrated was simply great. Another blue streak was followed, and it brought us on to a large and chronically inflamed and perforated appendix, situated far in and behind the cæcum and colon. The other fistulae were in the large bowel and easily detected. Just a short time previous to this, I operated on a similar case, referred by Dr. Gunn, of Clinton, Ont., Canada, in which the bile also escaped through the orifice of a fæcal fistula in the large bowel, following an operation for appendicitis. A separate tortuous fistulous track led to the upper small bowel, which gave a passage-way for the bile, which could not have been readily traced were it not for the methylene blue stain. The appendix was hidden behind the large bowel.

In dealing with the different varieties of rectal, vesical, vaginal and ureteral fistulae, the aid of methylene blue, as above described, is invaluable.

By staining an impassable stricture of the urethra, by injecting methylene blue into the penis, the small tortuous stricture is colored blue, and then the Wheelhous operation is facilitated, the course of the stricture followed by sight from before backwards.

In bone surgery it is equally useful. Cavaties in the long bones are more accurately cleaned out when they are thus stained. In performing a mastoid operation, upon making a small opening through the bone,

force methylene blue into the suppurating cavity and the various directions in which the disease extends are made obvious.

Nephritis.

I have written so much about this disease that I shall devote but a few words to it, lest its importance be forgotten.

A great deal of thought and work have been given to the surgical treatment of nephritis, since the appearance of my first article on this subject (March 18, 1899). While decapsulation of the kidney has been performed upwards of two hundred times, by different surgeons, still there are many unsettled questions concerning it. The immediate and remote benefits that are derived from decapsulation and nephrotomy, or from nephrotomy alone, are no longer questioned by those of experience in this line. In cases of decapsulation and nephrotomy, the other kidney frequently improves so as to excrete normal urine, for which I venture no explanation. We make bold now to declare that nephritis, interstitial, parenchymatous or diffuse, is purely a surgical subject, and that in its treatment internal medication is a sad failure. Chronic Bright's disease, once permanently established, is as much a surgical problem as is the inflamed appendix, gall-bladder. or hypertrophied prostrate.

It must be remembered, too, that chronic interstitial and parenchymatous changes, or both, have been going on for a long time, before the disease is detected, or makes itself manifest by producing ill-health. It is not consistent with common-sense, reason, or accrued knowledge to say that intersitial nephritis is chronic from the start, as many authors would have us believe.

Although I feel that I am your welcomed and privileged guest to-day, and would be allowed to say a good deal more, I must, however, respect your kindness and endurance, but permit me to point out briefly a few of the many other important branches, not yet mentioned.

We have within a few years seen the operation of prostatectomy generally adopted the world over, for the relief of prostatic hypertrophy, and in that time the Bottini operation has had its initiation, rise and fall.

We enjoy brilliant achievements in ureteral surgery. The artistic hand of the scholar has been successfully laid upon the wounded heart diseased lung and fevered brain.

While much has been done surgically for the liver and biliary tracts, the stomach and the intestinal canal, there are still many unsolved problems connected with them, that are attractive to the inquirer. The vicious circle is not yet cleared away; whether we do a gastro-enterostomy anteriorly or posteriorly, the circle is not always prevented.

In addition to this, we can anastomose the proximal with the distal arm of the loop of bowel, and still it comes. We may then tie off the proximal arm, close to the stomach, as advised by Fowler, and say to ourselves, "Now I have got you," but I am not so sure of that, for I have seen a case that continued to vomit, and died, after Finny's operation, just as they often do with a vicious circle.

A partial explanation may be that the secretions from the stomach, duodenum, liver and pancreas are sometimes so abundant that a shocked and paralyzed bowel cannot evacuate them *per vias naturales*. Diseases of the pancreas are being successfully treated by drainage, and I might go on and on and hint at many other things that may yet be accomplished by surgery, as in certain forms of diabetes, obscure brain lesions, and in pneumonia.

Pneumonia.

This last disease is so fearfully fatal, and medication is so futile, that one is impelled to do almost anything that offers even a ray of hope for recovery. I believe that a person should not be allowed to die of pneumonia without removing a rib and draining the lung at the seat of origin of the disease before the person is too much poisoned, on the one hand, or before the opposite lung is put out of commission, on the other. This is food for thought. The idea is not at all new with me, and I have two cases in support of my belief; one a case of inflammation of the right lung with complete consolidation and some pleuritic fluid of a whitish nature, which I then (1888, Winnipeg General Hospital) believed to be pus. Judging empyema to be the condition I removed a portion of the seventh rib in the mid-axillary line, and, finding no empyema, I proceeded and explored the consolidated lung in search of an abscess, but in vain. I used a large trocar and canula, inserted my finger into lung tissue, and finally drained the lung with gauze. My object then was to check any bleeding that might follow. I was abashed at my procedure, but the patient made one of the most rapid recoveries I ever saw. Resolution began to take place immediately, and I received extravagant praise for my work. The other case I refer to was one of tubercular pneumonitis, the middle lobe of the right lung, and published by me about three years ago, in whom a recovery took place after drainage of the lung parenchyma and insertion of iodoform. The consolidation cleared away within a short time, and I considered drainage contributed largely to the gratifying result.

Now I must close, and thank you.

10 Drexel Square, Chicago, Ill.

THE SURGICAL TREATMENT OF ENLARGED PROSTATE.*

By GEO. A. BINGHAM, N. B.,

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THE method employed in any given case will, of course, depend upon the condition of our patient. An elderly gentleman may consult one in reference to a frequency of urination which interferes with his repose. Examination may reveal a decidely enlarged prostate with no other special symptoms. He may be carefully and scientifically introduced to catheter life and may go on enjoying life comfortably and without curtailment.

On the other hand, in a neglected case you may be called upon to examine a physical wreck, with no ability to urinate, suffering from overflow and showing evidence of cystitis and possibly pyelitis. The sclerosed vessels of the patient and his general condition, may forbid a radical operation, and yet the foul condition of bladder and urine demand drainage. Here a median perineal cystotomy, done quickly under local anaesthesia, and permitting of permanent drainage and local application to the bladder walls, will go far towards relieving our patient's misery and prolonging his life.

To condense into a sentence what I have already said: If seen early enough, the proper use of the catheter will meet the indications; if seen too late, simple drainage is the utmost surgical procedure to be considered.

But between these two extremes there is a considerable number of cases calling for more radical treatment. In these cases the kidneys are not yet involved, but the patient is suffering from cystitis, or a calculus has been found to complicate the case; or haemorrhoids and prolapsus ani and, perhaps, fæcal incontinence combine to make life a burden; or, perhaps, the real capacity of the bladder has been so reduced as to make it necessary for him to rise hourly or oftener during the night; or, perhaps, he has had several attacks of retention which could not be relieved by catheter, necessitating supra-pubic puncture.

In all of these cases catheter life has been tried and, for one cause or another, has at last failed to give relief. Clearly such a case, with any one of these complications, demands surgical relief. What shall be the method employed?

Recognizing the prostate as a purely sexual organ, and properly so, shall we do a double *orchidectomy*, trusting in this way by abolition of function, to procure atrophy of the offending organ? Aside from the merely sentimental and aesthetic objections called forth by the sugges-

*Read at the Ontario Medical Association, June, 1901.

tion, the terrible mortality following the operation is likely to limit its field of usefulness. Our patient is probably old and feeble and ill able to withstand the shock consequent upon such an operation. Such an objection cannot be raised to another procedure suggested, namely, vasectomy. But the effect of this operation in producing atrophy of the prostate is slow and quite uncertain, and only very rarely would its advisability be presented to the mind of the surgeon.

I mention Bottini's operation to say that it is a dangerous method in the hands of any but the expert, and its field a limited one.

Considering the question then, in the light of modern surgery, one is forced to the conclusion that the ideal operation would be the removal of the offending structure if this could be done by some open method and without any great amount of shock.

The work of Freyer, followed by that of many other surgeons has, I think, clearly shown that this operation is a practical possibility. The supra-pubic route appears to be the more natural way of attacking the gland. You approach it from its more exposed surface, where it projects into the bladder, and where by simply nicking the mucous membrane, you are at once in contact with the gland in its capsule. It is true that the normal gland has outside of its capsule a sheath derived from the deep layer of the triangular ligament, but as the enlarging mass encroaches upon the cavity of the bladder in the line of least resistance, it seems to have worn away or burst through this sheath. At all events, when the finger is introduced through the small incision in the mucous membrane of the bladder, it comes in direct contact with the gland in its capsule. In approaching the gland by the perineal route, the urethra is more liable to injury, the bladder cannot be so thoroughly exposed, and the operation is lacking in that precision which characterizes it when the supra-pubic route is taken.

The Operation.

The bladder is first distended with water and is opened through an incision in the median line above the pubes. It is then thoroughly examined as to its general conditions, the presence or absence of calculi determined, and finally the condition of the prostrate is ascertained. Perhaps the only abnormality is a small pedicled tumor which has been acting as a ball-valve in obstructing the urinary outflow. This is twisted off and removed. Or perhaps one lobe is enlarged and encroaching upon the urethrel opening. If so, a small incision is made in the mucous membrane over the tumour, a finger is inserted, and the offending lobe is enucleated from its bed. Or, perhaps, what we are more likely to find

is a collar-like projection of the whole hypertrophoid gland encroaching upon the bladder cavity, with a much dilated bladder, and a retro-prostatic pouch of considerable dimensions. Two small incisions are made through the mucous membrane of the bladder, radiating from the urethral orifice, one in front, the other behind. The finger introduced into the posterior incision comes into direct contact with the gland in its dense capsule. With the finger, one lobe is first separated from the mucous membrane of the bladder behind and laterally, then in the middle line if the mass be large, the lobe is separated from its fellow, and next its base is loosened from the triangular ligament upon which it rests externally. Then with the finger in the anterior incision, the lobe is carefully separated from the urethra in which a sound has been placed for the guidance of the operator. The whole lateral half of the mass may then be delivered into the bladder through one or other of the incisions, and the whole process repeated upon the opposite side.

The presence of the right index finger in the rectum while the left hand is working in the bladder, is of great assistance during the process of the enucleation.

Hæmorrage is checked by hot water, a large drainage tube is introduced through the supra-pubic opening, and the wounds in bladder and abdominal wall are closed down to the tube. By a simple syphon arrangement the bladder can be kept quite empty and perfectly drained. It is washed out twice daily for perhaps a week, when the supra-pubic tube is removed. After that time the bladder is washed out through the urethra once daily until the supra-pubic wound closes. By this method the urethra is uninjured, the patient is relieved from what is often an agonizing state of affairs, and as a rule he recovers complete sphincteric control, and the tone of the bladder wall is quite restored.

Occasionally one finds it impossible to remove the tumor owing to its density and fixation by inflammatory adhesion. In such a case it is often possible, by removing a wedge of the tumor immediately behind the urethral orifice, to restore the function of urination, reduce the amount of residual urine, and thus materially improve the condition of the bladder.

I have purposely made this paper very brief. A whole chapter, for instance, might be written about proper methods of catheterization in these cases, and of introducing our patients to catheter life.

But, I take it, your Committee rather intended that I should introduce the subject of prostatectomy, and, as much recent work has been done along this line, one naturally looks for an interesting, educative and somewhat prolonged discussion.

ENLARGEMENT OF THE PROSTATE GLAND.*

By FREDERICK W. MARLOW, M.D., F.R.C.S. England,
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SITUATED beneath the posterior part of the bladder is the pyramidal-shaped prostrate gland. Its base is directed upwards, and its apex, which is directed downwards and slightly forward, comes into contact with that part of the parietal pelvic fascia forming the deep layer of the triangular ligament of the pelvis. It presents a posterior, flattened surface, separated from the rectum by the recto-vesical fascia, and two slightly convex antero-lateral surfaces meeting in front in a rounded anterior border, which lies behind the symphysis pubis and the retro-pubic fat. From base to apex the gland measures one inch and a quarter. Its transverse diameter is one inch and a half, and its antero-posterior diameter three-quarters of an inch. Six drams is the average weight of a normal prostrate gland. Traversing it from the approximate centre of its base to that part of the anterior border immediately above the apex is the prostatic urethra, fusiform in shape and nearly vertical in direction, but presenting a slight curve with its concavity directed forwards. That part of the gland on either side of the urethra is designated a lateral lobe, but, ordinarily, there is no outward indication of separation between the right and left lateral lobes. The common ejaculatory ducts enter the base of the gland immediately in front of the postero-superior border, and as they pass downwards and forwards to join the urethra a small portion of the gland is demarcated in front of them and behind the urethra. This is the anatomical middle lobe. It is continuous with and forms a connecting band between the lateral lobes, and is situated immediately behind and below the urethral orifice of the bladder. As a rule it is a mere transverse, wedge-shaped band, but, occasionally, as stated by Freyer,[1] it presents a rounded prominence even in the healthy gland, forming a true middle lobe. Entering into the formation of the gland is a fibro-muscular stroma, the muscular fibres being of the unstriped variety, and glandular tissues, which consists of minute, slightly-branched tubules and follicular pouches, lined by a short columnar epithelium. The tubules lead into the prostatic ducts, which latter are from twelve to twenty in number, and open into the urethra on either side of the verumontanum, that vertical ridge of mucous membrane which appears on its posterior wall. The utriculus, which is the homologue of the uterus and vagina, is a small cul-de sac dipping backwards and upwards from the verumontanum for a distance of a quarter to half an inch behind the middle lobe. The stroma makes

*Head at the Ontario Medical Association, June, 1904.

up the larger portion of the gland and supports in its interstices the proper glandular tissue. It is most marked anterior to the urethra where glandular tissue is practically always absent, posterior to the urethra, from whence it radiates outwards, and at the circumference. The outermost portion is non-glandular, and, in accordance with the description given by Sir Henry Thompson[2] and adopted by Freyer, is surrounded and definitely limited by a special fascial envelope belonging to the prostate itself. This is the proper capsule, and is not capable of being stripped off except by dissection. [3]Surrounding this, but separated from it by some areolar tissue containing the prostatic plexus of veins, some branches of the haemorrhoidal and inferior vesical arteries and of the hypogastric plexus of nerves, is the prostatic sheath which is derived in part from the parietal, and in part from the visceral pelvic fascia. [4]Passing from the sheath to the capsule are numerous small connecting bands and passing through the capsule, small vessels for the supply of the gland substance. The prostate is a purely sexual organ. [5]Its muscular substance ejects its glandular secretion to mix with that from the ejaculatory ducts, and it is probably on this account that the spermatozoa retain their nobility [6]for so long a time.

The prostate gland is subject to the occurrence of enlargement, and it may be taken that if a given specimen reaches a weight of one ounce or more it is abnormally large, but it must be remembered that prostatic enlargement does not of necessity imply prostatic obstruction. From statistics collected by Sir Henry Thompson and others it is estimated that about thirty-three per cent. of men beyond fifty-five years of age have some degree of enlargement of the gland, but that only about five per cent. ever suffer from symptoms. Freyer states[7] that in a large proportion of men after fifty years of age there is a tendency towards prostatic enlargement, but that such seldom declares itself by any marked symptoms until after fifty-five.

Up to the present time no satisfactory theory has been advanced to explain the occurrence of the various lesions presented, and it is interesting to note Mr. W. Bruce Clark's[8] quotation from Albarren and Halle[9], which reads: "We are entirely ignorant of the true nature of these lesions from a pathological point of view, and we find only hypotheses badly supported by facts." The theories in vogue at the present time are mainly two. That of Guyon and the French school presupposes the existence of general arterio-sclerosis and the occurrence of prostatic enlargement is regarded as a local result of the disease. The genito-urinary organs are regarded as being markedly liable to this change and it is claimed that symptoms ordinarily due to prostatic

enlargement may occur in the absence of such, as a result of sclerosis of the bladder, and that the changes occurring in that part of the urinary tract above the prostate are coincident with instead of dependent upon the enlargement. This theory is opposed by Freyer[10], Casper[11], Mr. W. Bruce Clark[12], McGowan[13] and others, as it has been definitely shown that enlargement of the prostate may and does occur frequently in the absence of general arterio-sclerosis. Furthermore, such disease is conducive to atrophy rather than to enlargement and it is unlikely that the prostate would prove such a marked exception in this regard. The other theory is that of Velpeau, who claims the existence of analogy between prostatic enlargement and fibro-myomatous disease of the uterus, on account of the similarity of structure in the two organs, the presence of the utriculus in the prostate, the nature of the enlargement as regards structure, growth and position, and the occurrence of the disease at a declining period of sexual activity. But here again discrepancies arise, for as Freyer[14] points out, the utriculus takes no active part in prostatic enlargement, and besides, this seldom if ever, begins as a fibro myoma as in the case of uterine tumors with which the analogy is assumed.

Enlargement of the gland may be uniform and symmetrical, in which case, symptoms of obstruction are most likely to be delayed if they appear at all, and on the other hand a symmetrical enlargement may arise in any one or more of its parts and with a greater aptitude to the production of symptoms. One form of enlargement, in which all the prostatic elements appear to be equally increased is probably the outcome of chronic congestion of an irritative or inflammatory nature, but congestion by itself does not often give rise to obstructive symptoms. To some extent, however, it accompanies all other forms of prostatic enlargement and when super-added to them acquires a greater importance as a causative factor. In another form there is a notable increase in the amount of fibrous tissue. This is the fibrous form of enlargement and if Guyon's causative theory were correct, it ought to be the most common form, which is by no means the case. When such gives rise to symptoms the fundamental cause is a constricting alteration in the normally funnel-shaped, vesical outlet and a decrease in the distensibility of the prostatic urethra. Carcinomatous disease, which is usually of the scirrhus type when occurring in the prostate gland, though not an uncommon cause of prostatic enlargement, does not[15] often give rise to a marked degree of obstruction before its fatal termination. But by far the most common of all is that variety of enlargement where the normal prostatic tissue becomes distorted and displaced and to some

extent replaced by the formation of adenomatous masses as the result of benign proliferation of its glandular elements. Mr. Cuthbert Wallace[16] describes the normal prostatic tissue as becoming displaced to the circumference where it forms a "laminated envelope" for the adenomatous masses. In this form the obstructive change in the urethra due to pressure and encroachment upon it by such overgrowth is the basis for the occurrence of symptoms. One or both of the lateral lobes may be involved and the situation of the anatomical middle lobe may and very frequently does present an adenoma which may be sessile or pedunculated, but which in practically all cases is connected[17] by prostatic tissue with one or other or even both of the lateral lobes. This is the pathological middle lobe and on account of its situation immediately above the vesical outlet is one of the most frequent causes of obstructive symptoms, especially when pedunculated, but it should be carefully distinguished from the anatomical middle lobe from which it seldom appears to take origin. Not uncommonly a collar-like projection with a slight anterior deficiency is formed around the vesical outlet.

In addition to a thinning of its walls by pressure, the effects upon the prostatic urethra are such as produce some amount of mechanical obstruction to the outflow of urine from the bladder. It is elongated and there is an alteration in the shape and a diminution in the size of its lumen. Of the changes occurring in the bladder, besides the irregular projection into its cavity of the adenomatous masses the veins surrounding its outlet are frequently in a varicose condition thus predisposing to haemorrhage and to the occurrence of retention of urine. Its walls at first become hypertrophied in order to overcome the mechanical difficulty of emptying it, but later on as a result of continual overstrain and changes occurring in the urine they become atonic and dilatation ensues, except in those cases in which contraction occurs as the result of prolonged cystitis. On account of the density of the fascial structures below and behind the prostate, enlargement takes place mainly upwards and forwards and the vesical outlet is gradually raised. The base of the bladder remains stationary and so a pouch is formed between it and the enlarging gland. This post-prostatic pouch is incapable of being emptied during micturition, the urine remaining therein being designated "residual urine," and as the capacity of the pouch tends to undergo a gradual increase so does the residual urine increase and the effective capacity of the bladder becomes correspondingly diminished. Sometimes a pre-prostatic pouch is formed as well. If so, it is bounded laterally by the enlarged lateral lobes and behind by the pathological middle lobe, its importance lying in the fact that it may

be mistaken for a contracted, vesical cavity during the introduction of a sound or a catheter. Cystitis is of a very frequent occurrence and although it may sometimes be the result of prolonged congestion, or of infection by way of the kidneys, or from the bowel, or of decomposition occurring in residual urine, yet in almost all cases it supervenes upon the introduction of infective micro-organisms during catheterization. Sacculation of the vesical walls is not uncommon and owing to alteration in the urine, vesical calculi, usually of the phosphatic variety, form a frequent complication of prostatic enlargement.

The ureteral outlets after a time tend to lose their valve-like character and to assume a marked patency, and owing to backward pressure from retained urine the ureters and the renal pelves may become distended and dilated and the kidneys undergo the changes characteristic of chronic interstitial nephritis, and when cystitis is present infection may proceed upward to them. The veins of the prostatic plexus become enlarged and other occasional complications of prostatic enlargement, hæmorrhoids, prolapsus ani, pruritus ani, priapism, urethritis, vesiculitis, epididymitis, testicular tenderness and orchitis.

The first symptom that is usually complained of is an increased frequency of micturition especially during the latter part of the night and in the early morning. In the early stages this is due to the irritation and congestion induced by the enlargement, at the vesical outlet, but later on as the post-prostatic pouch increases in size it is due mainly to diminution of the effective capacity of the bladder. As the enlargement progresses, the act of micturition is attended with increasing difficulty. There is difficulty in starting the stream, and such is increased by straining, and at the end of the act dribbling occurs. Sometimes the flow is intermittent in character and this is probably the result of a pedunculated pathological middle lobe obstructing the vesical outlet after the manner of a ball-valve. The size of the stream undergoes diminution and its normal projection curve is abolished, owing to reduction of the expulsive power of the bladder. Following on excessive exercise, or exposure to cold as from sitting on a cold or damp seat, retention may occur. This is usually regarded as being due to an exaggeration of the congestion accompanying enlargement of the gland and especially affecting those veins surrounding the vesical outlet. In the later stages, distension of a dilated atonic bladder with overflow of urine is sometimes observed. Pain is not a marked symptom except in the later stages when complications arise, as when a calculus lies free within the bladder but as a rule there is an ill-defined aching about the perineum and in the hypogastric region.

The urine remains at first clear and acid. Later on owing to fibroid changes occurring in the kidneys, the quantity is somewhat increased and the specific gravity tends to be lowered. Still later, when decomposition occurs and cystitis is present, the reaction tends to become alkaline, thus favoring the formation of phosphatic calculi, and the urine is found to contain abundant phosphates, mucus, pus, epithelial debris and frequently blood. When the kidneys become seriously involved the excretion of urea is diminished.

The diagnosis of prostatic enlargement is rarely attended with difficulty. When a man over fifty years of age, rarely younger, presents symptoms characteristic of the disease, a physical examination of the urethra, the rectum, and as far as possible, the bladder, should be made. If he can pass his urine the general characters and strength of the stream should be noted, and after passing all he can a catheter should be introduced. Any urine that can be drawn off will represent the amount of residual urine and this will vary from a few drams in the early stages up to two or more pints in advanced cases. The catheter should be of average size, from 7 to 10 English scale, and it is best to use a soft rubber one if such can be passed. Failing to do so a less pliable form may be found in the vulcanized rubber, or the gum elastic catheter, and if a still more rigid instrument is required recourse may be had to the metallic form. Various modifications of these in the form of the coudée, the bicoudée, or the long catheter with the exaggerated curve may prove useful at times. Any obstruction to its passage should be noticed, as well as the length of catheter required to reach the vesical cavity. Before such catherization the hypogastric region should be palpated and percussed, and if it is found that the bladder contains a large amount of urine, only a part of it should be withdrawn. Otherwise fainting may ensue and there may be hæmorrage from the vessels in the vesical walls owing to the withdrawal of their accustomed support. An examination of the urine will give valuable indications as to the condition of the urinary tract as a whole. Following this a rectal examination should be made; first with the patient in the dorsal position when assistance may be given by counter-pressure above the pubes with the disengaged hand, and afterwards in the knee-chest position which renders the prostate slightly more prominent and allows of a farther introduction of the finger. If enlargement is felt to be present it is certain that one or both of the lateral lobes is involved, but it is rarely, if ever, possible to determine by rectal examination the existence of a pathological middle lobe. Notice should be taken of the extent and position of any enlargement; also of its contour and consistency, whether smooth and soft as

in the adenomatous form, or smooth and hard as indicative of fibroid changes or nodulated,and of intense hardness as in carcinomatous disease in which also, the enlarged gland loses the mobility which it ordinarily retains and the rectal wall instead of being movable over it becomes fixed. If it is possible to reach beyond the gland some idea may be obtained as to the condition of the vesical walls.

In a subsequent examination the careful manipulation of a sound introduced into the bladder may give valuable information as to its capacity, the existence of a pathological middle lobe, or the presence of a calculus. The cystoscope is also a valuable aid to diagnosis and when capable of being introduced, the outline of any projection into the bladder, the presence of a calculus or of sacculation of the vesical walls, the existence of cystitis, the condition of the ureteral outlets and the gross character of the urine flowing from them may often be determined.

The presence of an urethral stricture may be excluded by the history and the physical examination, remembering also that in the case of stricture, straining is an aid rather than a hindrance to micturition. Prostatic abscess is productive of fever, much pain and fluctuation, and a prostatic calculus, which may grate on a passing sound, gives rise to a very hard nodule in the gland, substance which may be felt by rectal examination, and is accompanied by tenderness on pressure. After examination the patient should be confined to bed for a day or two in order to minimize the tendency to the occurrence of severe constitutional symptoms.

Enlargement of the prostate gland is thus a progressive disease, and its tendency to bring about dissolution is greatly enhanced by the occurrence of its numerous complications and sequelae.

It is beyond the purpose of this paper to discuss the treatment of this distressing condition except inasmuch as a resume of such may be given. It resolves itself into two forms, namely, palliative and operative. The former consists in the careful employment of the catheter, constantly or otherwise as required, and the treatment of appropriate measures of such complications as hemorrhage, pain, retention, cystitis and calculus as they arise. Some assistance may be derived from the careful regulation of the bowels, the diet and clothing of the patient, and he should be required to avoid excessive work, exercise or use of stimulants, exposure to cold or dampness, and sexual excesses. In the latter form of treatment a great variety of measures have been adopted. Of these castration, vasectomy and ligature of the internal iliac arteries were introduced with the object of inducing atrophy of the gland and so relieving the obstruction, the early improvement noted being regarded

as due to relief of congestion after the former two operations, and to diminution of blood supply following upon the latter, and the subsequent improvement to atrophy. Other operations are directed towards the gland itself. Such an one is the Bottini operation, or any modification of it, which aims at the restoration of a prostatic channel by the employment of a special form of galvano-cautery for the removal of obstructing portions of the enlargement. Prostatectomy is also performed. In the partial form of this operation only the obstructing portions are removed, and in the complete form total removal of the gland, or what practically amounts to such, is accomplished, the choice of routes lying between the suprapubic and the perineal. In far advanced cases, if the use of the catheter becomes inadequate, and the general condition of the patient is such as to contraindicate any operation of a radical nature, it may be necessary to establish an opening from the bladder either through the perineum or above the pubes for the purpose of drainage, thus performing an operation of a palliative nature.

At the present time it is to those forms of operation which aim at the removal of the gland that considerable attention is being given, and it would seem that the one designated "total prostatectomy" is destined to survive as the radical operation of the future. It is now admitted by practically all surgeons that removal of the enlarged prostate gland is not only a possible and scientific operation, but a justifiable and valuable one as well, in suitably selected cases.

A controversy exists as to whether or not outlying portions of the gland are left behind. From careful examination of his specimens removed by operation Freyer[18] believes that entire removal is possible. On the other hand Mr. Cuthbert Wallace[19], from an examination of post-mortem specimens believes that a portion of the laminated envelope which he has described as consisting of displaced and distorted prostatic tissue is always left behind. The support of these views is almost equally divided[20], and in the absence of microscopical examination of the parts left behind it is impossible to settle the matter definitely.

Another point which is productive of non-agreement is the fate of the prostatic urethra in such an operation. An examination of Freyer's reports[21] of his first fifty-one cases tends to show that in many of them it was left behind intact; but the majority of writers[22] on this subject entertain the belief that such is of rare occurrence, and that it practically always comes away with the gland entire or in part. The latter view seems to be the more reasonable one when it is remembered that the urethral walls usually undergo marked thinning, and are often only demonstrable[23] by the use of the microscope on the specimens

removed, and that the lateral lobes are attached to them by means of the prostatic ducts. The common ejaculatory ducts must of necessity be torn across when the prostatic urethra is removed.

In the operation of total prostatectomy the enucleation is performed from within the prostatic sheath and the prostatic plexus of veins, and if Mr. Cuthbert Wallace's view is correct within also the outer layers of the so-called laminated envelope. Excessive hæmorrhage is rare, and the operation is practically never followed by extravasation of urine or the occurrence of septicaemia. The cavity left behind undergoes rapid contraction,[24] but never enough to give rise to subsequent stricture, and in its contracted state it remains as a fistulous communication between the bladder and the membranous urethra where the true sphincter[25] is situated, and when the bladder regains its expulsive power, which it does in practically all instances, [26]it allows of unobstructed passage of the urine, and normal micturition is once more established.

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Dr. G. H. Burnham, Bloor st., Toronto, has gone for a trip to England and expects to return first September. He will attend the Oxford meeting of the British Medical Association.

TREATMENT OF PROSTATIC HYPERTROPHY.

By Dr. T. K. Holmes, Chatham, Ont,

PROSTATIC Hypertrophy is so common in advanced life and so surely undermines the health and embitters the declining years that its treatment must always appeal to medical men very strongly.

Until quite recently the use of the catheter afforded the chief and almost the only means of relief. This is only palliative and so often leads to infection of the bladder with all its concomitant evils that I have no hesitation in saying that it should never be resorted to by any unskilled person. I have never known a patient to use a catheter himself for any considerable length of time without causing infective cystitis and its resulting train of distressing and dangerous sequelae.

Within the past few years various operative measures have been tried for the cure of this ailment, and the accumulated experience resulting from these have enabled surgeons to estimate pretty accurately the value of each. Castration, vasectomy, prostatectomy and the Bottini operation are the only radical methods of dealing with prostatic hypertrophy advocated at the present time. There are, undoubtedly, cases in which castration or vasectomy has proved beneficial, but there are obvious objections to these operations and the results are so uncertain that they are not likely to be adopted in many cases. I have tried both several times, but probably from lack of skill in the selection of cases none of them were cured, and I soon abandoned these modes of treatment. Prostatectomy was formerly considered an operation of much danger and difficulty, but modern technique has overcome these to a great degree. The mortality in skillful hands is quite low, and the results when recovery takes place are so good that it is likely to be the operation of choice in a large number of cases. Men who have not had their general health injured much by the disease, whose kidneys are sound and in whom general anaesthesia would be safe, bear prostatectomy well. On the other hand the Bottini operation, which can be performed under local anasthesia, is well suited to men of low vitality to whom general anasthesia would be dangerous, whose kidneys may have undergone organic changes and whose general condition would render them incapable of prolonged confinement in bed. This operation has also given excellent results in younger prostactics whose general condition is good, so that I feel sure that it has a wide scope of usefulness when skillfully carried out. I have spoken to many surgeons both in Europe and America about the Bottini operation, and have found that it is generally looked upon with disfavor, but I have further observed that

the unfavorable opinions expressed are by men who have had little or no experience with it. The chief objections raised are that the operation is done under circumstances that render the destruction of the tissue uncertain in extent, that drainage which is important when there is a cystitis is not well secured, and that the operation is not entirely free from danger. These objections have been largely overcome by improvement in the Bottini apparatus and by the careful and systematic use of the cystoscope to determine the size and character of the enlarged gland preliminary to treatment. Whatever plan of radical treatment be adopted it is desirable to first endeavor to secure as healthy a condition of the urinary apparatus as possible. This can be done by suitable diet by irrigation of the bladder and by the administration of urotropin in doses of eight or ten grains three times a day.

In prostatectomy the gland may be reached through a suprapubic opening, or by a perineal incision, or by a combination of both. In my own practice I have found the perineal route so satisfactory that I have always adopted it. The operation of suprapubic lithotomy has convinced me that in a man with thick abdominal walls it would be far from easy to reach the gland with the finger to enucleate it, whereas in a similar case the gland can be easily drawn down into the perineal wound and enucleated with great facility. If a patient has passed the age of sexual vigor the plan of operation recommended by Parker Syms I believe to be the most satisfactory. The various steps in the operation are as follows: Place the patient in the lithotomy position with his hips well elevated, introduce a grooved sound, make a median skin incision about two and a half inches long terminating posteriorly near the anus and deep enough to divide the tissue covering the muscles, retract the muscles and divide the recto-urethralis transversly near its anterior attachment and retract this muscle backward towards the rectum. This will expose the membranous urethra which may be opened by cutting down in the grooved sound, and the incision should be continued until the gland is reached and slightly incised through its capsule. Now remove the sound and explore the bladder with the finger and determine the size and shape of the part to be removed. If a stone is present remove it with stone forceps. Syms' rubber bag should now be introduced into the bladder and moderately distended with water and the stem clamped with forceps. Traction on the bag will now bring the gland within easy reach, and while the left hand retains it in this position the right index finger can be insinuated between the gland and its capsule at the point where it has been divided, and by gentle means the whole gland or one lobe of it can be enucleated. During the enuclea-

tion of the deeper part it facilitates the operation to seize the gland with lobe forceps and make moderate traction. Having removed one lobe the other is dealt with in the same way. Instead of cutting backward through the capsule when the urethra is opened I have sometimes found it more convenient to snip the capsule of one lobe with scissors, enucleate it in the usual way, then deal with the opposite lobe in the same way. The bag may now be allowed to collapse by letting the water escape, when it can be easily withdrawn from the bladder and all blood flushed out by hot saline or boracic acid solutions. There is not much hemorrhage if care be taken to avoid the plexus of veins in the capsule. In this operation the only muscle cut is the recto-urethralis, and so very little injury is done to the perineum. The superficial part of the wound may be closed anteriorly by cat gut sutures. At first all the urine passes through the perineal wound, but this gradually closes, generally in from three to seven weeks. When there has been much cystitis the prolonged drainage through the perineum is advantageous. Before enucleation begins a bar can often be felt at the neck of the bladder between the lateral lobes, which disappears when these have been removed, which shows it to have been merely a ridge of normal tissue. Of course if there be a middle lobe of gland tissue it must be taken away also. This operation can be done quickly, generally in ten to fifteen minutes, and there is a little hemorrhage and no shock. In this operation the ejaculatory ducts which open into the urethra just near the apex of the gland are usually injured or destroyed, but if the sexual function has disappeared this is immaterial. In younger men the injury to these ducts may be avoided by adopting a plan devised by Dr. Young, of Baltimore. This consists in making a small opening in the membranous urethra without extending the cut backwards to the gland. A metal tractor which I here exhibit is then introduced into the bladder through the incision in the urethra. One blade is made to revolve 180 degrees and fixed there by the screw. By this means the two blades may be made to engage the lobes of the gland, and by pulling downwards the parts to be removed are brought prominently into the wound and the operation performed under visual control. With the gland drawn prominently into the wound by the tractor held in the left hand an incision on each side of the urethra is made through the extravesical capsule nearly the whole length of the lobe. Between the incisions is a bridge of tissue covering the urethra in that part of its course and containing the ejaculatory ducts, and by enucleating the lobes through these two incisions the ducts are left intact. After the lateral lobes have been removed the median lobe, if one be present, may be pushed into one of the cavities

by pressure with the finger inserted in the opposite cavity, aided by one blade of the tractor, and removed in that way.

I have found rather more difficulty in Dr. Yonng's method than in the use of the rubber bag, but he has acquired such facility in this branch of surgery that what would be difficult to less experienced surgeons is very easy to him. Dr. Young advises continuous irrigation of the bladder for several days if there has been much cystitis. This is accomplished by a double tube introduced through the wound in the urethra and connected with a reservoir which is kept filled with a warm salt solution and the return flow is conducted into a receptacle on the floor, through the return flow tube.

In three operations recently performed I irrigated the bladder for a few minutes with hot boracic solution until it returned free from blood, and used no further irrigation. Neither of these cases had any trouble from omitting the continuons irrigation and all made excellent recoveries.

In suitable cases the Bottini operation as performed by Dr. Young is one of the most satisfastory in surgery and has some advantages that must always commend it. It can be done under local anasthesia, it is comparatively painless, a patient can be out of bed in two days, the results are excellent, even a feeble patient bears it well and there is little constitutional disturbance during convalescence. It is in this operation that the skillful use of the cystoscope is all important for by its use the surgeon is guided as to the size of the cautery blade to be used and the length of the cut so be made. I here exhibit both the cystoscope and the cautery apparatus. Having decided by the former and by digital examination per rectum which blade is adapted to the case in hand, the patient is placed in the dorsal position with the knees drawn up and feet supported by stirrups. The bladder is now washed out with warm boracic acid solution and an ounce of a 4 per cent. solution of cocaine injected so as to anasthetize the whole mucous membrane, especially the part to be incised and also the urethra. From four to eight ounces boracic acid solution is next injected into the bladder, the instrument introduced and the beak turned backwards where its point can be felt by a finger in the rectum. A stream of cold water is kept flowing through the instrument during the time the blade is heated. The instrument having been placed so that the blade when moved from its slot by the screw in the other end of the instrument comes in contact with the part of the gland to be incised and all connections having been previously made and tested, the switch on the transformer is moved far enough to bring the blade to a white heat and

it is gradually forced into the gland by the screw which moves it. The blade is thus moved into the substance of the gland at the rate of one centimetre per minute until sufficient tissue has been destroyed, when the current is turned off and the instrument moved in order to make the second cut. Usually three cuts are made, one posteriorly and one on each side. It is well to keep the current on and the blade hot while moving it back into the slot as it destroys more of the gland and prevents hemorrhage. Dr. Young makes the lateral cuts first. In a case with a pedunculated middle lobe, there is risk of destroying the pedicle and leaving the lobe loose in the bladder, but such a condition seldom exists and can be recognized by the use of the cystoscope. It need scarcely be added that asepsis throughout is essential.

To avoid tedious repetition and to curtail the length of this paper I shall report two cases, one a prostatectomy and the other a Bottini operation as they furnish fair examples of the kind.

Case 1. A man at sixty-three years of age good family and personal history had noticed a growing discomfort in the urinary organs for seven years. At first there was increased frequency in urination and a diminution in expulsive power with dribbling at the end of urination. These symptoms gradually grew worse until at times the urine came only in drops or in a very weak stream. The rest at night was disturbed, there was an unpleasant aching sensation about the bladder and perineum all the time. He had never used a catheter and the urine was normal. There were two ounces of residual urine. Cystocopic examination showed moderate enlargement of the lateral lobes and a bar joining them. There was no cystitis. The sexual function was uninjured. Pressure on the gland per rectum gave pain and a considerable enlargement could be felt by the examining finger.

The Bottini operation was performed as described above, three cuts being made almost without pain. The patient remained in bed two days, after which he remained up and moved about freely every day. There was considerable pain in urinating at first, but this gradually became less and in three weeks disappeared altogether. There was no acceleration of pulse or rise of temperature at any time during convalescence, but the urine contained blood for several days and small sloughs continued to pass at intervals for nearly three weeks.

Several months have now elapsed and he remains well, not requiring to rise at night and passing urine about from four to six times a day. The stream is normal in size and force and he expresses himself as perfectly well.

Case 2. A man at seventy-six years with good history began to have the usual symptoms of prostatic hypertrophy nine years ago, but was not obliged to use a catheter until four years ago, since which time he has had a most distressing cystitis and has to use a catheter several times a day. In October last he had a severe attack of Orchitis and it was for this that he consulted me. I found the urine ammoniacal and loaded with pus, the testicle swollen and painful and the prostate large and tender. There were eight ounces of residual urine. I administered urotropin and as far as possible aimed at improvement of his general condition, irrigating the bladder night andmorning with warm boracic solution. Finding it impossible by this means to get rid of the pus after a trial of three weeks I decided to remove the gland, which I did by the Parker Syms method as already described. The operation occupied fifteen minutes and was followed by no shock whatever. In this case instead of incising the urethra backwards into the gland I merely cut backward far enough to reach it, then with blunt scissors snipped an opening into the capsule of each lobe and enucleated them in succession. There was no median lobe, but merely a collar stretching from one lobe to the other across the neck of the bladder. When the lateral lobes were removed this collar disappeared. The temperature rose to 100 degrees F. the first evening, but remained normal after that. He remained in bed a week and the perineal wound was entirely closed at the end of three weeks. A month after the operation he urinated without difficulty every two or three hours and his general condition was greatly improved. I here exhibit the gland. The large lobe was removed from the left side and the smaller one from the right side. At present six months after the operation there is no residual urine and that passed is normal in appearance and in constituents.

THE SMOKE BY-LAW.

The Toronto Municipal Council has adopted a smoke by-law, whcih came in force on 1st July. This is a move in the right direction. It is only when one goes on the lake or upon the elevated land to the north of the city that it becomes apparent how much smoke there is in the air over the city, even on a clear day. The abolition of the smoke nuisance will be a great boon to the people's lungs and clothing. To none, however, will the results be more satisfactory than to the manufacturers themselves. Their premises and goods will be spared the constant soiling by soot that now takes place, and their employees will be put under more healthful conditions.

It was shown very clearly by the Smoke Commission of London two years ago that, for a small cost, the production of smoke can be almost entirely overcome.

CURRENT MEDICAL LITERATURE

OPHTHALMOLOGY AND OTOLOGY.

Under the charge of G. STERLING RYERSON, M.D., C.M., Professor of Ophthalmology and Otology, Medical Faculty, University of Toronto.

CONICAL CORNEA

L. Webster Fox, M.D., Philadelphia, in a reprint from the *Ophthalmic Record*, January, 1904, treats very fully the history of conical cornea; and, passing on to the causation, says it may be congenital or post-natal. Wardrop observed it in a boy of 8 years of age, and Ammon encountered it in several sisters who had suffered from it from birth. Cooper attributes it to an enfeebled state of the constitution and a low condition of the nervous system, congestion, ulceration of the cornea, inflammation of the cornea, and excessive weeping. Statistics show that it is most common among the Chinese. It has been suggested that conical cornea, as it occurs in China, is in some way connected with the pyramidal or conical shape of the head, characteristic of the Chinese people. Pickford was the first to associate conical cornea with disturbances of the sympathetic nerves, and in this Kirke and Paget agree with him. The position of persons suffering from conical cornea is a most unfortunate one and many suggestions have been made for its cure and at least one case of spontaneous cure has been recorded. Bell was among the first to perform paracentesis. Gervis applied nitrate of silver to the apex of the protrusion after puncture. Tyrrell displaced the pupil and Adams removed the lens. Desmaress advocated puncture of the cornea and afterwards long continued pressure. Faroi established drainage of the aqueus humor by the removal of small pieces of the cornea and claimed to have made cures by this procedure. Graefe exised a small flap from the apex and treated it with nitrate of silver. The resulting cicatrix caused a flattening of the cornea. Bader reported nine cases in which a more or less flat cornea was produced by carrying a fine silk or silver wire through the affected portion of the cornea horizontally, the needle being left in the cornea until the top of the cone is removed. The flaps made are then drawn together and the suture tied.

The non-operative treatment with atropine, belladonna, etc., have been used for prolonged periods to give rest to the eye, without effect. Of optical devices, the first employed was the pin hole disc, recommended by Travers Wharton Jones, while others adapted concave lenses with

some benefit. Nottingham has done good work in this condition. He recommends varions forms of artificial irides, such as the following: 1 flat disc of blackened metal, with a pupilary opening, so arranged that it may be readily centered with the pupil. 2. A similar disc with a transverse slit instead of a central foramen. 3. A small black cup of ebony, the concavity to be turned to the eye and with a pupilary aperature in the centre. Fox made a series of experiments extending over several years in an effort to produce some form of disc that would permit rays of light to enter the eye through the least refractive portion of the cornea. The investigation began with a pinhole disc and stenopaic slit and included the testing of every form of prism and patch, until a satisfactory result was obtained. The conclusions reached were as follows: 1 That the character of the disc and its angle vary in each case. 2. That the intelligence of the patient is an indispensable adjunct in the selection of the necessary disc, as the method is entirely subjective. 3. That the lenses in which the corneal area is screened by black patches of various sizes and shapes, containing the requisite slits, are better adapted for this purpose and are less noticeable than prism or ground glass. 4. That the refraction of the cornea varies from time to time, requiring frequent examinations with the changing of the discs. 5. That the incorporation of the patches with the correcting lenses gives rise to an additional improvement. 6. That the only disadvantage lies in the fact that the patches do not correspond to the cornea during ocular movement, but is compensated for by the marked improvement and comfort afforded when the eyes and discs are adjusted for some average range. 7. That a fair trial should be made with these discs before resorting to perative procedure.

GYNAECOLOGY

Under the charge of S. M. HAY, M.D., C.M., Gynaecologist, Toronto Western Hospital; Consulting Surgeon Toronto Orthopedic Hospital.

ABDOMINAL SURGERY, RETROSPECTIVE AND PROSPECTIVE.

In the April number of the *Glasgow Medical Journal*, Dr. A. Ernest Maylard writes an interesting and instructive article on the above subject, based on fourteen years experience in the wards of the Victoria Infirmary, Glasgow.

If the middle of the last century may be taken as one of the epoch-making periods of surgery, when anæsthetics were introduced, and the sixth decade of that century as another period of great surgical advance, when Lister propounded his life-saving principle of antiseptics, then the

author thinks we must be allowed to add a third at the close of that wonderful century. The field which abdominal surgery has opened out is so vast and, withal, so replete with life-saving and life-prolonging possibilities that it surely deserves to be reckoned with anæsthetics and antiseptics as one of the three great factors in raising surgery to the, high position it now holds.

Note the position abdominal surgery held only about 25 years ago. In the early months of 1880, he held the position of senior house surgeon at Guy's Hospital, London. There were between 300 and 400 surgical beds. During a period of almost four months there were 161 operations and only three of those abdominals.

In the early eighties, when on the surgical staff of the Glasgow Western Infirmary, it was also rare to see the abdomen opened. When such an event did take place it was usually with a crowded theatre, and in the presence of as many of the staff as could be there.

In his wards in the Victoria Infirmary in 1893, there were 4 abdominal operations and in 1903 there were 97. These do not include operations for the radical cure of hernia, nor cases where a localized abscess was opened, nor the fixation of a movable kidney. Neither are vaginal hysterectomies included.

In discussing some separate regions he states what has been accomplished, and what we may still hope to achieve in the future.

Oesophagus.—Strictures, either innocent or malignant, are almost exclusively the affections dealt with by abdominal section. Many a bad innocent stenosis, which has proved impermeable to the passage of dilators by the way of the mouth, has been overcome and successfully treated by attacking the constriction through an opening in the stomach. In the case of malignant disease, the performance of gastrostomy is still the only means of affording relief. The operation should be performed as soon as the patient begins to find pain and difficulty in swallowing semi-solid food.

Stomach.—In obstructive disease of the pylorus it is generally recognized that surgical treatment can alone afford the necessary relief. We can, by taking all proper precautions, make a most complete internal and external examination of the stomach, irrespective of the performance of any definite operation upon the organ. These examinations should be advocated in all cases where gastric diseases are protracted or fail to prove amenable within a reasonable time to the ordinary methods of treatment. One advantage of this would be the discovery of malignant disease so early that we might reasonably hope for complete removal and perfect cure. Another advantage would be the

detection, by a direct visual and tactile investigation, of conditions otherwise undiscoverable. Since we have come to deal with the stomach surgically, we have learned how many and harmful are the complications associated with gastric ulcer. We have perforation, hæmorrhage abscess, fistulae, adhesions, displacements, contractions of the body of the organ, as well as of the pyloric orifice. The proper treatment of chronic gastric ulcer is by operation; and, in experienced hands, the mortality of the operation is less than 5 per cent. He believes more lives would be saved, more complications prevented, more suffering spared by the timely performance of a gastro-jejunostomy than could ever be accomplished by the conventional methods of purely expectant treatment. By it we know that hyper-chlorhydria, a constant and, possibly, even a causative factor in gastric ulcer, is certainly at once relieved; and we equally know that a dependent opening in the stomach must give that rest to the stomach so necessary in the case of all other lesions of a purely inflammatory nature. A large number of the cases dismissed from the medical wards of our large hospitals, and believed by the physicians in charge to have been cured, are only temporarily relieved.

Intestines.—Possibly what we need here most is an improvement in diagnosis. This is strikingly noticed in acute intestinal obstruction. Over and over again the cry of the operator is, "Too late, too late." Could we but operate within the first twenty-four or forty-eight hours of the onset of the acute symptoms very few lives would be lost. In malignant disease, again, it is largely a question of early diagnosis. If a malignant tumour of the bowel can be felt through the abdominal parietes the chances are greatly in favor of the disease having extended beyond the possibility of entire removal.

In all affections involving the caecum, ascending, transverse, descendiug colon and sigmoid flexure, where the question is not one of excision, we have the power of relieving this portion of the intestinal tract of practically any part in the role it usually plays of receiving, retaining and expelling the normal faeces. By dividing the ileum near its junction with the caecum, closing the distal end, and implanting the proximal into the lower part of the sigmoid or upper part of the rectum we can throw the whole of this tract—practically the whole of the large bowel—out of action, and so either circumvent any possible obstruction existing in its course, or relieve an inflamed or ulcerated area from irritation and movement. It has, he believes, a part to play in the future, far in advance of anything that has been previously attempted. Thus, the condition of chronic constipation has many causes for its explana-

tion. In some instances he has seen the colon greatly distended and hypertrophied from the obstructive effects of the normal splenic flexure. In others the hepatic flexure seems to have caused troublesome obstructive constipation

Appendix.—He has not yet been able to bring himself into line with those who advocate operation in all cases of acute appendicitis within the first 48 hours. Experience has taught him that every case should be operated upon where, after the fourth day, the symptoms are not showing unmistakable signs of subsiding. He has also learned how frequently an attack of appendicitis is due to the kinking of some part of the organ.

He is prepared to advise that an attack of appendicitis—no matter how simple in its earliest manifestation, even though it be represented by little more than vague colicky pains in the right iliac region—at once places the patient under the category of those who require sooner or later surgical treatment. Probably no period exists in the whole course of the disease, considered either in the light of a single attack or in repeated recurrences, which is more safe and suitable for operative treatment than about ten days to a fortnight after the onset of the attack. To operate before nature has set up her barriers is, in acute appendicitis, as in any acute inflammatory process elsewhere, a procedure to be avoided if possible.

OBSTETRICS AND DISEASES OF CHILDREN.

Under the charge of D. J. EVANS, M.D., Lecturer in Obstetrics, Medical Faculty, McGill University, Montreal,

A REPORT OF 975 CONSECUTIVE RECORDED CASES OF CHILDBIRTH IN PRIVATE PRACTICE WITHOUT A MATERNAL MORTALITY.

Dr. J. S Hammond, *The American Journal of Obstetrics*, June, 1904, publishes an interesting record of 975 cases of labor in his practice in Butte, Montana. He considers that the prime essential in the obstetrician is good judgment. In practice, no two cases present analogous conditions, so he must learn to recognize every case as a law unto itself. The author is particularly strong in his remarks regarding the advisability of assistance of labor and is convinced that too many cases are indiscreatly interfered with. He considers that the success of the ignorant old woman who devotes her attention to mid-wifery, is due to the fact that "she doesn't know enough to interfere." He is opposed to the too frequent use of forceps, and to the use of the post partum douche. Respecting asepsis he considers that "the multifarious procedures advo-

cated by so many writers and teachers, greatly overdo the matter. Good hot water with ordinary laundry soap, plenty of it, on hands with clean finger nails, will make a reasonably competent sterilization." All instruments used are dosed in boiling water, and when necessary to introduce a hand into the uterus, the only lubricant and germicide used was a lather of hot soap-suds.

Many of the cases were managed in an environment of filth and poverty. Often clean sheets and clothing for the patient were not obtainable. He modestly considers his record is based perhaps more on good fortune than on skill, for he admits he has seen cases in consultation which, had they occurred in his practice, would have certainly proved fatal.

The nationality of his patients were mostly foreign, as Butte is a large mining community. He found the average duration of labor was 12 1-2 hours; the largest number of births took place between 4 and 5 a.m. and the smallest between 1 and 2 p.m., though on the whole the a.m. births did not greatly exceed the p.m. The 975 labors resulted in the birth of 986 children, there being 11 twin births; of these 500 were females and 486 males. The month of October saw the greatest number of births, December and January ranging next, showing that in this community January, March and April were the periods of greatest sexual activity. 261 cases were primiparous women, and of these 227 had previously suffered from one or more miscarriages.

Presentation and position classify themselves as follows:—Vertex, 938 or 95 percent.; breech, 30 or 3 percent; irregular, 18 or 2 percent. Of the 938 vertex presentalions there were O.L.A. 721, O.R.A. 143, O.L.P. 27, O.R.P. 47. Of the 30 breech presentations there were, S.L.A. 17, S.R.A. 4, S.L.P. 2, S.R.P. 7. Of the irregular presentations there were, footling, 9; face, 4; brow, 2; arm, 2.

The most troublesome condition the author considers to be occipito-posterior cases, the ineffectual character of the pains in the first stage with the slow advance in the second stage makes the patient nervous and hysterical, while her friends get anxious and lose faith in the attendant who begins to think if he had to choose medicine as a profession, why did he not select the eye and ear as a specialty and leave obstetrics alone. He recommends in these cases the genu-pectoral position during the first stage, then as soon as the os is sufficiently dilated, the introduction of the hand under complete anaesthesia and manual rotation of the occiput forward, whether the head was engaged or not. If it is not possibie to rectify the presentation and use forceps, then podalic version must be performed, unless the waters have escaped

and the uterus contracted about the child. He succeeded in one case in delivering a face presentation with the chin posterior, by means of forceps, the child surviving the operation for three days.

Chloroform was administered 481 times, and would have been employed more frequently except that many refused it. When haemorrhage follows its employment he thinks it is a case of post hoc, not propter hoc.

Forceps were used 118 times, or in about 12 per cent. of the cases.

Lacerations occurred in 234 cases, or about 25 per cent.; everything in the nature of a rupture of the mucous lining of the birth canal being reckoned a laceration.

Podalic version was resorted to in twenty-three of the cases always by combined internal and external manipulations.

Thirty-two of the children were still-born.

Hour-glass contraction of the uterus was noted in four cases, imprisoning a portion of the placenta in every case. There were thirteen well marked cases of adherent placenta. There were six cases of placenta previa, three of these being delivered before he reached them, the children being still-born. Three children were born alive, but, were not viable. Five times prolapse of the cord was noted, in two of which the child was still-born. One case was intercurrent with a double pneumonia. Puerperal insanity developed in one case. A large perineal hæmatoma developed in one case twelve hours after delivery, a few days later this was incised, the clot turned out and the cavity packed with iodoform gauze.

In five cases the complete birth of the child took place before rupture of the amniotic sac. In one case the amniotic sac ruptured four weeks before delivery, the patient having a constant discharge of water in the interval. There were two cases of hydrocephalus, in one of which craniotomy was required to deliver.

In only one case was there a mammary abscess. Five cases required catheterization after delivery.

One case passed through a moderately severe attack of variola in the seventh month and was delivered at term of a living child.

The heaviest child at birth weighed fifteen pounds.

One case was accompanied throughout pregnancy by a most intense general pruritus. In two cases the pregnancy was accompanied by the most persistent morning sickness *on the part of the husband.*

Two infants were born with hare-lip and one with cleft palate unassociated with hare-lip; one case of club-foot and one of patulous foramen ovale. One child suffered an intra-uterine amputation of the left arm at the elbow joint. There was one case of myxoma of the neck.

Eclampsia occurred in but one case and was treated by means of morphia and veratrum viride, which the author considers as a specific.

There was one interesting case of spontaneous amputation of the cervix which was found hanging by a thread of tissue from the vulva after spontaneous delivery of the child and placenta. It was not marked by severe pain nor was there any subsequent hæmorrhage.

PROVINCE OF QUEBEC NEWS

Conducted by MALCOLM MacKAY, B.A., M.D., Montreal.

The most important event in medical circles this summer, has been the second congress of French-speaking physicians of North America, which was held in the halls of Laval University. Most of the delegates came from towns in the Province of Quebec, but quite a number were representatives from Western Canada and the New England States; in addition, France was represented by Prof. Pozzi, and a large number of English-speaking physicians took advantage of the courteous invitation extended to their societies.

The congress was opened by the president, Dr. Foucher, and after the report of the secretary, the meetings proceeded in the various sections. Among the important papers was one upon Pulmonary Tuberculosis in Canada, by Dr. Alphonse Mercier, of Montreal, which was the basis of an excellent discussion in which Drs. Cavalier, Lamarch, D'Amour, Dubé, Gauthier and Lachapelle took part. Dr. Francois de Martigny read extracts from his paper on the cause and cure of appendicitis. In the discussion the old question of immediate surgical intervention appeared to be the main point taken up, Dr. Laurendeau and a few others opposing the statement made by the speaker, that acute appendicitis was a surgical affection which could not be permanently cured by medical treatment alone.

Dr. Villeneuve read a paper upon Medico-Legal Reforms in the Province of Quebec, and Dr. Valin spoke upon the necessity of medical examinations in all educational institutions.

The evenings were in general devoted to meetings of a social character, including a reception and banquet. The last day of the congress was spent in the election of officers, followed by a trip down the Lachine rapids.

Not the least interesting feature of the gathering was the opporunity given to the medical men of the city, and those attending the congress, to see Dr. Pozzi, of Paris, the official delegate of the Academie de Medicine de Paris, perform two operations, one at the Notre Dame Hospital and one at the Royal Victoria Hospital. The operations were very similar, both being the removal of large fibroids of the uterus with hysterectomy. At Notre Dame Hospital, Dr. Pozzi was assisted by Dr Harwood and Dr. Ethier, at the Royal Victoria by Dr. Gardner and Dr. Goodall, while Dr. Monod,an old house surgeon of Dr. Pozzi, administered the anaesthetic.

Dr. Pozzi has few mannerisms and delights one with his direct and rapid methods. In the operation at the Royal Victoria which was more difficult than the one at Notre Dame, it was found, after an abdominal incision, that the tumours consisted of two distinct masses one of which filled up the pouch of Douglas, without a moment's hesitation this latter was enucleated in a surprisingly short time thus leaving room for easy manipulation in the rest of the operation. No peculiarity in method was noticed until the abdomen was being closed up. But here, after closing the peritoneum he passed two silver wires, as sutures, deep into the tissues across the incision, these being each double were tightened up by twisting around a small roll of iodiform gauze, the incision being completely closed by a running catgut suture. He contended that this method gave great support and prevented strains upon the walls of the incision itself, thus insuring speedy union with the minimum of pain. During the operation, Prof. Pozzi wore a gauze mask over his mouth and beard, although operating without rubber gloves. Everyone present was impressed by the rapid decision, and speed combined with thoroughness of the operator.

Dr. Starkey's paper upon Epidemic Diarrhœa among infants in Montreal, which was read before the Montreal Medical Society and appeared in the July number of the Montreal Medical Journal is already showing its influence. Even the aldermen in the City Hall are disturbed over the report of more than one hundred deaths among children in a single week. The medical health officer, Dr. Lachapelle, has been publishing report after report upon the subject and it looks as if something might be done at last. The health department has published statistics showing that Montreal has a death rate of 23 per 1000, a proportion due chiefly to infant mortality. As compared with 100 other cities in North America, Three Rivers has the highest death rate (36.01) and Hamilton (13.09) the lowest, the average being 20.1 per thousand in all the cities.

Dr. Lachapelle agrees with Dr. Starkey in saying that the large number of privy pits in the city has a great deal to do with the mortality and where these have been done away with, the death rate has at once diminished. The inspection of milk has also been more carefully examined into and as a result Recorder Weir has been delivering very sensible lectures on hygiene to delinquents brought before him, and what is more to the point giving heavy sentences to those guilty of selling impure milk.

Dr. R. Tait Mackenzie has tendered his resignation from the position of Governor's Fellow, Lecturer in Anatomy and Medical Director of

Physical Training at McGill University. He has been appointed head of the department of Physical Education in the University of Pennsylvania, Philadelphia, which has recently expended over half a million dollars in this department.

In the Montreal art gallery he will also leave a great blank as lecturer in artistic anatomy. His skill with the pencil and in clay is acknowledged beyond Montreal, while he is well known as a writer in *Outing* and other journals devoted to athletics and sports.

Dr. Mackenzie has done his work very quietly and the governors and fellows of the University can hardly realize the loss which his resignation will cause to McGill, those however who entered their Alma Mater when athletics were in chaos and graduated with everything running smoothly, well understand that a long time will pass before a man as able, popular, and conscientious, will occupy the position of physical director of McGill University.

The election of officers of the Montreal Medico-chirguical society for the year 1904-5 was held at the last regular meeting of the session and resulted as follows:—president, Dr. J. H. Macdonald; vice-president, Dr. F. R. England; secretary, Dr. A. H. Gordon; treasurer, Dr. A. T. Bazin; trustee, Dr. Jas. Bell.

At the same meeting Dr. J. E. Goldthwait, of Boston, read a paper upon The Differential Diagnosis and Treatment of the so called Rheumetoid Diseases, illustrated by stereopticon views. The following is a synopsis of the paper.

1. Chronic Villous Arthritis, a purely local process generally mono-articular.

2. Atrophic, or Rheumatoid Arthritis, a chronic disease characterized by early and progressive atrophy leading to marked crippling with little or no blood change.

3. Hypertrophic or Osteo-arthritis a local or general process, characterized by thickening and ossification of the edges of the articular cartilages.

4. Infectious Arthritis, due to infectious organisms or their toxins—practically a septicaemia and associated with secondary anaemia and enlarged glands.

5. Chronic Gout characterized by deposit of urate of soda in the soft structures about the joints with some bone absorption.

Drs. Garrow, Adami, England, Girdwood and Perrigo took part in the discussion.

MEDICAL SOCIETIES AND GATHERINGS

CANADIAN MEDICAL ASSOCIATION.

The Vancouver meeting, 1904, takes place August 23rd, 24th, 25th and 26th, under the presiding of Simon J. Tunstall, M.D., Vancouver, B.C.

Vancouver and Victoria.—The thirty-seventh annual meeting of the Canadian Medical Association is to be held this year in Vancouver on the above dates. Victoria joins hands with her sister city in extending the hospitality of the Pacific province to all the members of our great national medical organization. In the thirty-seven years of its history this is the first time a meeting of the Canadian Medical Association has been held in British Columbia; and the opportunity to visit Victoria, an outpost of the Empire, and Vancouver, the pride and glory of the West, should not be lightly passed by. Indeed, the entire West is a "panorama of beauty" and a "scene of bustle."

How to Get There and How to Get Home Again.—There will be no special train. No arrangements are in force to return *via* California, Salt Lake City and Colorado, as none could be secured, so far as the Canadian Medical Association is concerned, but below will be found information which will cover that route in returning, same being an open rate not requiring any special certificate for purchasing transportation. Under the arrangements made, tickets will be good going *via* Canadian Pacific Railway direct, *via* Port Arthur, *via* Sault Ste. Marie, St. Paul thence Soo-Pacific route, Great Northern or Northern Pacific, or Grand Trunk *via* Detroit or Port Huron to Chicago, St. Paul, thence Soo-Pacific route, Great Northern or Northern Pacific, or Grand Trunk, returning same route or any other of the above routes. Lake route, Owen Sound to Port Arthur, may be taken one or both ways on payment of $4.25 additional eachway. Boats leave Owen Sound Tuesdays, Thursdays and Saturdays.

It is also proposed to allow variation to St. Louis *via* St. Paul and Chicago on return trip, when tickets are routed on return trip *via* those points, on payment of $10.00 additional. Secure return tickets if return is to be made other than Canadian Pacific Railway, *via* the Northern Pacific Railway to St. Paul; Chicago and Northwestern, from St. Paul to Chicago; Wabash, Chicago to St. Louis or Chicago to Detroit, either Wabash or Grand Trunk; Illinois Central, Chicago to St. Louis and return. Through sleeping car accommodations from St. Louis *via* Chi-

cago to all points in Canada on Grand Trunk Railway; or from St Louis *via* Wabash to Detroit direct, or to Chicago and thence to Detroit.

Maritime Provinces.—The Intercolonial Railway joins in the arrangements in force for the Maritime Provinces and also in Quebec.

Manitoba, Northwest Territories and British Columbia.—Transportation arrangements are as follows: To Vancouver and Victoria, from Port Arthur, Fort William, Rat Portage, $50.00; from Winnipeg, Emerson, Gretna, Portage La Prairie, Brandon, Indian Head, Winnipeg to Boissevain, Winnipeg to Carrol, Brandon to Hartney and Weyburn to North Portal, $45.00; Rapid City Junction, $45.85; Gladstone, $46.05; Neepawa and Minnedosa, $46.85.

The above blankets pretty nearly all of the important points in Manitoba, but to make rates from points not shown above the one way first-class rate to the nearest point shown is to be added, but not to exceed the rate from a point more distant on the direct line. From points in the Northwest Territories and British Columbia, Qu'Appelle and West, round trip tickets to Vancouver and Victoria will be issued at single fare. Passengers ticketed at stations Medicine Hat and east, have the option of going *via* the main line, and returning Crow's Nest, or *vice versa*, as they may decide when purchasing their tickets. Tickets will be issued to either Vancouver or Victoria, where the same rate applies to either places; but if, as is the case from some far western points, the rates are higher to Victoria than to Vancouver, then tickets to Victoria will be issued only at the Victoria rate.

Rates from—		
Sault Ste. Marie, Sudbury, North Bay		$62 40
Orillia, Allandale, Beeton, Toronto Junc., Parkdale, Streetsville Junc., Cardwell Junc., Inglewood, Brampton, Brantford, Caledonia, Jarvis, Simcoe, Tillsonburg, Guelph, Galt, Georgetown, Hamilton, Milton, Drumbo, Berlin, Stratford, Woodstock, Beachville, Ingersoll, St. Thomas, St. Marys, London, Harrisburg, Sarnia, Chatham, Windsor, Ont		62 40
Toronto	Ont.	62 40
Listowel and Palmerston	"	63 25
Harriston and Mt. Forest	"	63 45
Clinton	"	63 35
Kincardine	"	64 90

Rates from—		
Teeswater	Ont.	$64 25
Southampton	"	65 05
Wiarton	"	65 35
Wingham	"	64 05
Goderich	"	63 75
Elora and Fergus	"	62 80
Orangeville	"	62 85
Owen Sound	"	65 05
Stouffville Junc., via Toronto	"	63 25
Blackwater Junc., via Toronto and Orillia	"	63 80
Manilla Junc. and Lindsay, via Toronto and Orillia	"	63 65
Peterboro' and Port Hope	"	64 40
Central Ontario Junc. and Trenton	"	65 70
Tweed	"	66 25
Napanee	"	66 80
Eganville	"	68 00

Rates from—		
Renfrew	Ont.	$68 00
Sharbot Lake	"	67 60
Kingston	"	67 70
Carleton Junc	"	68 00
Brockville, Smith's Falls, Perth	"	68 00
Prescott, Kemptville Junc.	"	68 00
Ottawa	"	68 00
Rockland	Que.	68 00
Vankleek Hill	Ont.	68 00
Cornwall	"	68 00
Montreal, Montreal Jct., St. Martin Jct	Que.	68 00
St. Johns	"	68 00
Huntingdon, via Montreal	"	68 00
St. Hyacinthe	"	68 85
Farnham	"	68 00
Acton	"	69 20
Waterloo	"	68 40
Foster	"	68 25
Richmond	"	69 20
Three Rivers	"	69 75
Quebec, Levis, Point Levi	"	71 00

Rates from—		
Sherbrooke, Lennoxville	Que.	$69 20
McAdam Junc., St. John and Moncton	N. B.	76 50
St. Andrews and St. Stephen	"	76 50
Woodstock	"	77 00
Edmundston	"	78 70
Fredericton, Doaktown, Boiestown and Blackville, via Fredericton	"	77 20
Digby and Yarmouth, via St. John	N. S.	77 50
Halifax, via D. A. Ry.	"	79 50
Halifax, via I. C. Ry	"	81 00
Oxford Junc.	"	78 95
Truro	"	80 00
New Glasgow, via Truro	"	80 75
Pictou, via Truro	"	80 50
Pictou, via Oxford Junc.	"	80 45
Antigonish	"	81 45
Mulgrave	"	82 10
North Sydney	"	83 55
Sydney	"	83 70

Fare East of Fort William.—From points not mentioned add $50.00 to first-class one way fare to Chicago.

Dates of Sale of Tickets.—From all points in Ontario and Quebec tickets will be on sale from the 15th to the 21st of August, inclusive, and from points east of Vanceboro', Me., August 14th to the 20th. The final return limit is October the 23rd, which means that all must be home on that date.

Stop-Overs.—Stop-overs will be granted west of Port Arthur on going and returning journey, and west of St. Paul when tickets are routed on return journey by that point.

Entertainment at Calgary on Way Out.—The Calgary Medical Association is desirous of extending an entertainment during the course of one day on the way out to Vancouver. This entertainment will be a typical western one, and will take the form of an Indian gathering in costume, Indian races and games, roping and cowboy feats. Those who would like to stop over at Calgary for this entertainment so kindly offered through the Calgary Medical Association, should notify the General Secretary without any delay, so that if there would be sufficient number, same could be forwarded in time for proper preparation of the entertainment.

The Social Side at Vancouver and Victoria.—In Vancouver arrangements have been made for various excursions, yachting trips

steamer, rail and tram to surrounding points of interest; receptions, private and public; a dinner or a ball. On one of the days of the meeting the delegates will be taken by train to New Westminster, visit the asylum there and other points of interest, then take the boat down the mighty Fraser to Steveston, visit some of the canneries, so that visitors will have the opportunity of verifying the stories of the salmon industry; then take the train back to Vancouver—a trip of great interest from start to finish.

In Victoria a committee is arranging a series of entertainments there, viz., reception at Government House, conversazione at the Parliament Buildings, a visit to Esquimalt and William Head Quarantine Station, besides other excursions to points of interest in and about Victoria.

For those who would like to extend their visit special rates are arranged for to Nanaimo, for stop-overs at Kaslo and Golden. Other side trips have been arranged for to Skagway, Atlin, *via* Yukon and White Pass Railway to Dawson City. Hunting parties can be made up at Vancouver, and reliable guides furnished. Guides can also be supplied for those who would want to do mountain climbing.

Hotel Accommodation. — Vancouver Hotel, $3 to $5 per day: Badminton, $2 to $3 per day; Leland, $2 to $3 per day; Commercial, $2 to $3 per day; Metropole, $2 to $4 per day; Dominion, $1 to $2 per day. Board and rooms can also be arranged for at private houses, a complete list of which can be obtained from the local secretary.

Pullmans and Dining.—The Pullman rate from Toronto to Vancouver is $17.00 each way; from Montreal $18.00 each way. Meals for five days about $12.50.

Yellowstone Park.—Yellowstone National Park is situated mostly in the State of Wyoming, in its north-western corner. Those contemplating visiting this "Wonderland" after the meeting in Vancouver, should see that their tickets are routed on return journey *via* the Northern Pacific Railway. From Vancouver the return trip is made over the C.P.R. to the boundary where the Northern Pacific is taken at Sumas. Thence through Auburn and Spokane to Livingston, where change is made for Gardiner, at the entrance to the Park. A six day's trip by stage-coach through the Park, including meals and lodgings at the hotels, which are all first-class, will cost $49.50. The Park is sixty-two miles from north to south and fifty-four miles wide. The General Secretary will be glad to hear from all those intending to take in this trip on return journey, having been assured that a party of from twenty-five to fifty will receive better attention than smaller ones.

Return through California, Salt Lake City and Colorado.—As announced above, the Canadian Medical Association has no arrangements in force for return *via* California. For the benefit of those, however, who wish to return that way to St. Louis, the information may be tendered that there will be in force at the same time as our own convention an open rate of $70 25 from Toronto to San Francisco, good going *via* Canadian Pacific Railway to Vancouver, allowing liberal stop-over in each direction; final return limit 23rd of October. No certificates are required for this trip, as it is an open rate to all. In taking this trip, members of the Canadian Medical Association going to Vancouver should be routed on return *via* Southern Pacific, Portland to San Francisco or Los Angeles; Southern Pacific, San Francisco to Los Angeles to Ogden; Union Pacific to Kansas City and St. Louis. Mr. H. F. Carter, T.P.A., Union Pacific Railway, 14 Janes Building, Toronto, will supply any further information regarding this route.

Membership.—The fee for membership is $2.00, and may be paid to the Treasurer, Dr. H. Beaumont Small, Ottawa, when registering at the meeting. For the information of those who have not been elected to membership, the same rates apply to them as well, and they are instructed to ask for application forms when registering.

Special Certificates.—All delegates must have for themselves, their wives and daughters, if going, a special certificate from the General Secretary, in order to secure reduced transportation rates.

Further Information.—Should any one require any further information as to accommodation at Vancouver or Victoria, side trips, hunting, etc., they will kindly address the Local Secretary, Dr. W. D. Bryden Jack, Vancouver, B.C. For certificates and general information address the General Secretary, Dr. Elliott, 129 John St., Toronto.

Provisional List of Papers.—President's address, Simon J. Tunstall, Vancouver; Address in Surgery, Mr. Mayo Robson, England; Address in Medicine, Dr. ———— ; Address in Gynecology, Dr. E. C. Dudley, Chicago; Paper, title to be announced, Dr. A. McPhedran, Toronto; Paper, title to be announced, Dr. J. H. Elliott, Gravenhurst, Ont.; Surgical Treatment of Trachoma, Dr. G. Sterling Ryerson, Toronto; Paper, title to be announced, Dr. A. Armstrong, Arnprior, Ont.; Paper, title to be announced, Dr. A. E. Garrow, Montreal; The Operative Treatment of Spina Bifida, Dr. E. R. Secord, Brantford, Ont.; The Business Aspect of the Medical Profession, Dr. James E. Hanna, Ottawa, Ont.; Paper, title to be announced, Dr. D. J. Gibb Wishart, Toronto; Paper, title to be announced, Dr. J. W. Stirling, Montreal; Paper, title to be announced, Dr. B. E. McKenzie, Toronto; Hernia of Bladder Complicating Inguinal

Hernia, Dr. Francis J. Shepherd, Montreal; Gastric Ulcer and its Treatment, Dr. J. B. McConnell, Montreal; La Syphilis Canadienne et Diffirents Facteurs et Gravite, Dr. D. E. LeCavelier, Montreal; Case Reports, Dr. Robert H. Craig, Montreal; Paper, title to be announced, Dr. James S. Edwards, Grand Rapids, Mich.; Paper, title to be announced, Dr. Henry Howitt, Guelph, Ont.; Chronic Cystitis, Dr. J. O. Camirand, Sherbrooke, Que.; Iniencephaly, with a Report of Three Cases, Dr. Maud E. Abbott, and Dr. F. A. L. Lockhart, Montreal; Actinomycosis, Dr. James Bell, Montreal; Paper, title to be announced, Dr. Ingersoll Olmsted, Hamilton, Ont.; Prostatectomy Under Local Anesthesia, Dr. H. H. Sinclair, Walkerton, Ont.; High Frequency Currents in Functional Disease, more pasticularly Functional Neuroses, Dr. S. F. Wilson, Montreal; Therapeutic Hints from Bacteriology, Dr. G. R. Cruickshank, Windsor, Ontario; Paper, title to be announced, Dr. C. H. Mayo, Rochester, Minn; In addition there will be a number of papers from Western men, whose names have not yet been received.

ASSOCIATION OF EXECUTIVE HEALTH OFFICERS.

The dominant note of the nineteenth annual meeting of the Association of Executive Health Officers of Ontario, which was held in Sarnia, July 13th and 14th, was struck in a paper by Dr. Hodgetts of Toronto, Secretary of the Provincial Board of Health, when he called attention to the possibility of better hygienic measures for the treatment of consumption and the advisability of clothing the local health officers with power to see that these conditions were complied with. His paper on the subject evoked considerable discussion, and some remarkable instances were given of the restoration to health of tuberculosis patients by living in the open air, etc., without going into institutions. The paper called attention to the impossibility of providing sanitaria for ninty and nine cases out of every hundred, and gave the mortality figures from this disease for the Province at 200 a month, or 2,500 last year, in support of the plea for activity on the part of local health officers. The report of the Phipps Institute in Philadelphia was a revelation of the benefits of pure air, regularity of life and nutrition in restoring patients to health. He urged the adoption of a system of registration of consumptives to secure complete protection of the healthy from contagion.

The Chairman of the Association, Dr. Hall of Mallorytown, was absent, and the chair was filled by Dr. Lane of Chatham. The new health regulations were explained in a paper by Dr. Charters of Chat-

ham, with special reference to the power of health officers to compel the erection of isolation hospitals.

Factory Inspector Burke read a paper composed by his colleague, Thomas Keilty, Factory Inspector of Brockville, calling attention to the need for some arrangement which would free local health officers from financial loss when their duty compelled then to antagonize large firms by a close enforcement of the Health Act. In his duty he had met many cases where the medical men did not enforce the Act stringently through fear of loss of practice, in many cases well grounded. Recommendation was made for a system of district health officers, who would be amply paid for the work, and could act for a large territory.

In the discussion which followed cases were brought to light where local health officers desired to enforce the sanitation of barber shops, etc., but were restrained by the certainty of being visited with a serious loss of popularity through being considered too officious.

A paper upon lateral deformity of the spine by Dr. Oliver, of Sarnia and a paper upon diphtheria treatment, by Dr. Logie, of Sarnia, were also presented.

Two papers of much importance were read: "The Interpretation of Water Analysis," by Dr. Amyot, of Toronto, and "Medical Inspection of immigrants," by Dr. P. H. Bryce, of Ottawa.

The arrangements by the Town Council for the entertainment of the members of the Association were most complete. A train was placed at the disposal of the committee by the Grand Trunk, which took the visitors through the tunnel and past the saw milling industries. In the afternoon a steamer was chartered, and an excursion was given on the lake and river, and in the evening a complimentary banquet was given at the Belchamber Hotel by the Council and Lambton Medical Association, at which over 100 were present. Mayor Cook presided.

PROVINCIAL BOARD OF HEALTH.

The quarterly meeting of the Provincial Board of Health, which is usually held in Toronto, was held in Sarnia, July 13th and 14th, in connection with the meeting of the Association of Executive Health Officers of Ontario. Those present were: D. Kitchener, St. George; Dr. W. Oldright, Toronto; Dr. R. P. Boucher, Peterborough; Dr. A. Thompson, St. Catherines, and Secretary C. A. Hodgetts, M.D., Toronto.

A resolution was passed recommending that an Order in Council be passed making it obligatory upon physicians to report all cases of tuberculosis to the local health officer, in order that without resorting to placarding of the houses a general supervision could be exercised over

this class of patients to reduce the danger of infection and secure better hygienic conditions for the patients themselves.

The quarterly report of Secretary Hodgetts showed a diminution of the number of cases of contagious diseases throughout the province except measles and tuberculosis. The number of cases of scarlet fever had fallen from 983 to 408, largely, it was claimed, on account of the Health Act of 1903. Great stress was laid upon the necessity of enforcing the clause requiring the vaccination of children of school age Municipalities which did not comply risked an epidemic, with its consequent expense and loss of life, while there were invariably few cases, if any, where the clause was lived up to. He defended the seven weeks quarantine for scarlet fever, stating cases of infection even later than seven weeks. The smallpox epidemic in Temiskaming district had decreased, and there are now only 30 cases.

The expected action regarding the sewage system of Toronto was discussed in an interim report, stating that arrangements had been made for a bacteriological examination of the sewage at different points to determine the exact character. Attention was called to City Engineer Rust's statement that each day there is a waste of sixteen million gallons of water. The admission of this water into the sewers, it was stated would mean a great additional expense if any dry sewage plan had to be adopted.

A delegation was received from Collingwood consisting of the Mayor, Chairman of the Board of Health and health officers, regarding the proposed sewerage plan for that town The board was unable to approve of the plan until fuller information could be obtained, but promised a special meeting when the full facts were laid before them.

The sewer plans of Bridgeburg were conditionally approved, and the waterworks plan of Grimsby and Creemore were reported on.

THE MEDICAL DEPARTMENT OF THE CONGRESS OF ARTS AND SCIENCE AT ST. LOUIS.

The Department of Medicine is divided into twelve sections, embracing the principal fields covered by the subject. The order of proceedings will be most easily understood if set forth in detail.

The Department of Medicine will be opened on Tuesday, September 20, under the chairmanship of Dr. William Osler, with two general addresses by Dr. W. T. Councilman and Dr. Frank Billings. There will be sections of Public Health, Otology, Preventive Medicine, Pediatrics, Pathology, Psychiatry, Neurology, Therapeutics, Internal Medicine, Surgery, Gynæcology and Ophtholmology. Many papers and

addresses are promised by eminent members of the profession from the United States, Great Britain, France and Germany.

ASSOCIATION FOR THE TREATMENT OF INEBRIATES.

The following resolutions were adopted at a meeting held at the residence of Dr. Wm. Oldright, Toronto, April 10th, 1904:—

1. That it is much to be deplored that up to the present time no provision has been made in this Province, either by the Government or the Municipalities, for promoting the treatment of indigent inebriates; that the general custom of committing these unfortunates to jail is neither deterrent nor reformatory; it is degrading and bad economy, and in cases where the inebriety is a disease it is inhuman.

2. That we deplore the fact that the members of the Ontario Government have not been able to see their way clear either for the introduction of the proposed bill for the economic treatment of indigent inebriates or for the adoption in this Province of the probation system for first offenders, either as delinquents or as drunkards—a system that is both reformatory and economical and which saves from jail stigma and contamination.

3. That realizing as we do that some action should be taken in this important matter without further delay, we recommend that the necessary steps be taken for the formation of a society for prosecuting the reformation of inebriates; but that before an appeal is made to the public for financial help, it is recommended that an effort be made to secure to the movement the commendation of prominent citizens.

The undersigned have considered the above resolutions regarding "The Treatment of Inebriates" and are in hearty sympathy with them. They are willing to co-operate in the movement therein outlined and would commend it to the earnest consideration of others. James Massie, Dr. Wm. Oldright, Dr. A. M. Rosebrugh, Dr. E. J. Barrick, Ald. John Noble, Dr. B. E. McKenzie, Dr. W. Harley Smith, Mr. I. H. Cameron, Dr. Price Brown, Dr. E. H. Adams, Thomas Crawford, M.P.P., Justice J. R. Teetzel, W. J. Gage, B. E. Walker, Ald. E. Coatsworth, Hon. S. C. Biggs, Prof. Wm. Clark, Prof. G. M. Wrong, Rev. Joseph Hamilton, Rev. A. B. Winchester, A. B. Brown, Board of Education, Dr. J. A. Temple, Dr. N. A. Powell, Dr. John Ferguson, Principal N. W. Hoyles, Rev. Wm. Frizzell, Rev. Canon E. A. Welch, Rev. Canon J. D. Cayley, Edward Taylor, City Relief Officer.

UNIVERSITIES AND COLLEGES

THE ONTARIO MEDICAL COUNCIL CONVENTION.

The members of the council of the College of Physicians and Surgeons of Ontario assembled, 28th June in their board-room in the Medical Council Buildings, Toronto, for the first session of their annual five days' convention. There was a full attendance of members and the proceedings of the afternoon were marked by expedition and harmony. The prosperous year which the college had enjoyed was indicated by the treasurer's statement, which showed receipts of $36,200.19 and a cash balance of $5,127.91, after disbursements had been made.

Dr. Thorburn's resignation. On the meeting being called to order, the resignation of Dr. Thorburn was laid before the members. Dr. Thorburn said that as Toronto School of Medicine had surrendered its charter, he did not consider that its representative had any longer a right to a place on the council. In accepting the resignation, the members of council expressed regret at losing such a useful and esteemed colleague as Dr. Thorburn.

The President's address. Dr. J. A. Robertson, of Stratford, the retiring president, in delivering his annual address, welcomed the members of council to the labors of another session. He referred feelingly to the death of two valued members, Dr. W. H. Moore, of Brockville, and Dr. Sangster, of Port Perry, and extended a welcome to their successors, Dr. Herald, of Kingston, and Dr. Bascom, of Uxbridge. He spoke also of the retirement from active life of Dr. W. B. Geikie, dean of Trinity Medical School, and expressed the hope that he would long continue to enjoy health and prosperity. He congratulated the members on the satisfactory showing of the treasurer's report, and on the fact that the council's building had increased in value as an asset. Dr. Robertson said that he had personally attended the examinations, and he was convinced that the methods in vogue were quite on a par with those of the profession of the Mother Country. In concluding, he thanked the members for the assistance and consideration, and called on them to name his successor.

Dr. M. Sullivan elected president. Hon. Dr. Sullivan, of Kingston, was the only name placed in nomination for the office of president, and his election was therefore unanimous, In taking the chair he thanked the council for conferring such an honor upon him. He said he had

spent nearly 50 years in the profession, and the longer he remained in it the more impressed he was by the nobility and usefulness of the calling. He feared that doctors did not fully recognize the possibilities for good which their work gave them. He said he was averse to the discussion of the physicians' "tariff," as he believed that the doctor's services could never be measured by any money value. The doctor should regard his fee as an honorarium. He expressed the hope that the college would continue to maintain the high standing of the profession, not by increasing fees, but by keeping up a rigid standard of qualification.

Officers: The other officers were elected as follows : Vice-President, Dr. A. A. Macdonald, Toronto; Registrar, Dr. R. A. Pyne, M.P.P., Toronto; Treasurer, Dr. H. Wilberforce Aikens; Solicitor, Christopher Robinson, K.C.; Auditor, Dr. J. C. Paton; Stenographer, Alex. Downey; Prosecutor, Chas. Rose.

Committees: The following committees were then appointed:—

Registration—Drs. Campbell, Lane, Johnson, Stuart, Thornton, Klotz, MacArthur.

Rules and Regulations—Drs. Lane, Bascom, Adams, Hillier, Spankie.

Finance—Drs. Henderson, King, Griffin, Brock, Bray.

Printing—Drs. Temple, Stuart, King, Hardy, Hillier.

Education—Drs. Moorhouse, Henery, Luton, Gibson, Spankie Temple, Robertson, Herald, Britton.

Property—Drs. Johnson, Campbell, Glasgow, Britton, Thornton.

Complaints—Drs. Griffin, Hardy, Mearns, Glasgow, Johnson.

Inter-Imperial Registration.—A communication was received which had been forwarded to Lord Minto by Hon. Alfred Lyttleton-Colonial Secretary, stating that a private member's bill had been introduced in the British House of Commons providing that when any part of a British possession was under both a central and a Local Legislature, the King might, by Order-in-Council, declare any such part under a Local Legislature to be a separate British possession. The object of this measure was to enable reciprocal arrangements to be entered into under the Medical Act of 1886, with such provinces of Canada as desired to do so. The Colonial Secretary wished to have the views of Canadian Ministers on the measure. The Government had in turn forwarded it to the Provincial Secretary, who had transmitted it to the Council.

After a short informal discussion the matter was referred to a special committee, composed of the following members: Drs. Bray, Brock, Campbell, Hillier, Johnson, Macdonald and Spankie.

Inter-Provincial Registration.—Communications regarding Inter-Provincial Registration from Dr. Lindsay of the Nova Scotia and Dr. J. A. Macdonald of the Quebec Colleges, and one from Johns Hopkins University, regarding reciprocity in medical degrees, were referred to the same special committee.

Cancer Research.—A lengthy report on cancer research was received from the Imperial Government. It was forwarded to the Dominion Medical Association.

Examinations in London.—The following notice of motion was given: That annual examinations be held at London similar to those held at Toronto and Kingston. This was referred to the solicitor for his opinion.

The Matriculation Examination.—The special committee consisting of Drs. Spankie, A. A. Macdonald, and Britton, appointed by the Ontario Medical Council to secure all the information possible in relation to matriculation, presented their report. Accordiug to their recommendation the requirements for passing the examination will differ little from those at present in vogue. Two changes are made. Formerly a minimum of 33 1-3 per cent. sufficed for those candidates who had passed the joint university examinations for junior matriculation in arts as conducted by the Ontario Education Department. It is now decided to raise the minimum to 40 per cent. Formerly this joint matriculation with honors in two subjects, entitled the candidate to be passed by the council. The committe advised that one honor subject suffice in future.

The following credentials will in the future be accepted:—

"1 A certificate of having graduated in arts in any university in his Majesty's dominions, or any other university approved of by the council.

"2 A certificate from the registrar of any chartered university conducting a full art course in Canada that the holder thereof has passed the examination conducted at the end of the first year in arts by such university.

"3 A certificate of having passed the joint university senior matriculation examination in arts as conducted by the Education Department of Ontario.

"4 A certificate of having passed the senior arts matriculation conducted by any chartered university of Canada.

"5 A certificate of having passed the joint University examination for junior matriculation in arts, as conducted by the Education Department of Ontario, with an advanced percentage, as follows: 40 per cent. minimum on each subject, and 50 per cent. on the aggregate.

"6 A certificate of having passed the joint university examination for junior matriculation in arts, as conducted by the Education Department of Ontario, with honors in any two departments.

"The matriculation fee will be $20."

Among the criticisms levelled at the report were that it did not go far enough, that experimental science was not made compulsory, that senior matriculation should have been recommended.

The report was adopted on a division of 20 to 4.

The Case of Dr. Van Epp.—The Executive Committee reported the case of Owen B. Van Epp, a qualified practitioner of Ohio, who resides on Pelee Island, in the County of Essex, and who had a Bill passed by the Legislature admitting him to practise medicine in that township only, on petition of 700 of the residents thereof. He is the only practitioner on the island. He passed the final examination of the Medical Council.

Prosecutions.—The matter of a complaint received of fifth-year students practising was brought up in the report of the Prosecution Committee, but no action was taken. Two cases of unprofessional conduct was referred to the Discipline Committee for consideration.

The report, after referring to these and several minor cases, went on to say:—

"Besides the above cases, I have had a large number of complaints against osteopaths, Christian Science healers, magnetic healers, and others of that kind, but owing to the fact that they prescribe no medicines, I have been unable to do anything further than giving their cases as much publicity as possible, and, until the Legislature in their wisdom see fit to amend the Ontario Medical Act so as to cover this class of 'healers,' I am unable to protect the public against them."

Examinations.—The Examination Committee reported that at the Spring examination in the final year 142 candidates had presented themselves, 93 of whom passed and 49 failed.

Jurisprudence and Sanitary Science.—It was resolved that the subjects medical jurisprudence and sanitary science should for the purposes of examination be considered separate and distinct subjects.

Proprietary Medicines.—Dr. L. Bray, Chatham, introduced the following resolution, which was seconded by Dr. Moorehouse, of London: Resolved that a committee be appointed to take into consideration, as far as possible, the composition of the various patent medicines now on the market, and report to the council at the present session, with the view of laying before the Legislature the necessity, in the interests of the public, of having the formula of all such remedies printed on each package."

Dr. Bray said there was a general agitation for temperance, which was right. But if people were not to be allowed to drink lager beer, which contained only 2 1-2 per cent of alcohol, it was a great wrong to permit the sale of medicines containing alcohol running from 15 to 40 per cent. Worse than alcohol were the opium and morphine found in some patent medicines, which were the cause of forming the opium habit in the cases of many women in Ontario. If the formulae were printed on every package the public would know what they were buying.

Disposal of the Building.—Considerable time was spent in considering the question of disposing of the college's building at the corner of Bay and Richmond Streets. The members were practically unanimous as to the wisdom of selling the property, but there was a diversity of opinion as to the value of the property the estimates placed on it running as high as $150,000. The land and building cost originally about $88,000, but owing to the increased value of the land and the rise in cost of building operations, there has been a decided advance in the value of the building.

The matter was brought before the council by a resolution moved by Dr. Henry, and seconded by Dr. Griffin, that the Property Committee sell the property at as early a date as possible, the resolution fixing a minimum price.

This motion was vigorously discussed. Dr. A. Macdonald, the vice-president, objected to the fixing of a minimum price on the building. He thought that the property was worth fully $150,000. In this he was supported by Dr. E. E. King, who pointed out however, that at present the income from the building was only $4,743 per annum, while the maintenance charges, taxes, and interest amounted to $7,733. He favored selling the property, and erecting a suitable building which would be devoted solely to the purposes of the college and the profession. He then moved in amendment that tenders for the purchase of the property be invited by advertisement. After further discussion, the motion was withdrawn, and the amendment was carried unanimouly.

Censors or Assessors.—Dr. C. T. Campbell's motion that certain members of the council be appointed to attend every examination to act as censors or assessors, was referred to the Education Committee for consideration and report at a future meeting.

Salaries.—Dr. Campbell also moved that the Finance Committee consider the fixing of salaries and allowances for the members and officers of the council. This was carried.

Tariff for Fees.—Dr. A. J. Johnson, chairman of the special committee appointed last year to consider a general tariff for professional services, brought in a report setting forth minimum and maximum fees. As the council has no legal right to fix a tariff, it simply approved of the report, which contained also a recommendation that the practitioners of each division form separate associations and adopt a general tariff.

Provincial License Department on Orders of Stimulants.—Mr Saunders, chief officer of the Provincial License Department, sent the following letter to Dr. R. A. Pyne, M.P.P., registrar of the Ontario Medical Council :—

"The Provincial License Department has recently received a number of complaints from various parts of the province that medical practitioners in the districts in question are in the habit of giving prescriptions or orders to hotelkeepers and shop licensees to supply liquor to the holders of the orders, sometimes for indefinite periods, and often in absurdly large quantities, and it was thought probable that the Medical Council might see fit, if attention were called to the matter, to make an effort to minimize this evil.

"The department would prefer not to give any names for publication lest it should be prejudicial to the practitioners without being correspondingly beneficial to the public. I may, however, say that within the last few days three complaints have been received of this character. In one instance 30 orders had been given within ten days in a small place, mostly to persons whose maladies appear to have reached an acute stage on two successive Sundays. In another locality 17 orders were given for alcohol, chiefly by the quart, and, what is worse, many of these orders were to bearer. Recently a curious order was presented to a hotelkeeper authorizing him to supply the bearer with three or four glasses a day. This particular order was not subject to any limitation in point of time, and the hotelkeeper appears to have thought that it would hold good for several months. It should be stated in this connection that a notice had previously been served upon the hotelkeeper under section 125 of the Liquor License Act, forbidding him to supply the person in question with any liquor whatever.

"If you think it would be of any benefit to bring this matter before the council will you kindly do so ?"

Mr. Eudo Saunder's letter, complaining that medical practitioners issued orders for liquors in large quantities for patients, was laid on the table.

Luncheon.—At 1 o'clock, 30th June, the members of the council sat down as guests to a luncheon tendered them at the new medical

building by Dean Reeve and the faculty of the school. The dean, in proposing the health of President Sullivan and the council expressed his conviction that that body would deal fairly by both the public and the medical institutions in the matter of medical education. The faculty of the school has been increased, but this was made necessary by the larger number of students in attendance since the amalgamation.

Senator Sullivan, in replying, referred to the advance of the profession, which was largely due to the improved facilities for acquiring knowledge. He proposed the health of Dr. J. H. Richardson, emeritus professor of anatomy, and the veteran teacher was honoured with an outburst of hearty cheers when he rose to make a brief but sincere reply. He said he had always tried to retain the friendship of his students and fellow-professors, by treating them like gentlemen, and if he had succeeded in doing so he felt amply repaid.

Proprietary Medicines.—The use, or rather the abuse, of patent medicines was one of the chief matters considered. The report of the special committee, appointed to consider the best methods of dealing with the injurious results from the public's excessive use of proprietary medicines, declared that, in view of the large and rapidly increasing sale of patent medicines, including snuffs and cosmetics, and the unwarranted statements contained in advertisements of the same, steps should be taken to memorialize the Dominion Government asking that a law be passed making it compulsory to have displayed on each and every bottle a complete and correct formula of ingredients It should also be made a misdemeanor to state in any advertisement that an article was a cure of any specific ailment which statement the formula did not warrant.

The report further went on to state that the excessive amount of alcohol contained in the greater proportion of proprietary medicines made them injurious to the health of the public and conducive to the alcoholic habit. Of some 91 separate tonics and bitters recently analysed by the Massachusetts State Board of Health, 7 contained an average of 22.5 per cent. of alcohol, and 27 contained over 30 per cent of alcohol. Whiskey contained but 25 per cent. alcohol.

The council unanimously endorsed the report.

The Finances.—The report of the Committee on Finance was satisfactory, showing a balance of $5,127 after paying off $7,500 on the mortgage. The registrar's salary was placed at $2,500 per annum and the treasurer's at $600. The estimates for 1904-5 were: Receipts, $29,627; expenditure, $22,009; balance, $7,528. The assets were Building and site, $125,000; assessment dues uncollected, $1,500; assess-

ment dues, 1903, $5,000; furniture, $800; cash in bank, $5,127, total $137,427. The liabilities were: Mortgage, $47,500; costs of session, $3,000; accounts, $51; total, $50,551. Balance to credit of college, $86,876.

Annual Tax,—It was decided that each member of the college should pay towards the general expenses an annual fee of $2.

Complaints.—The Committee on Complaints reported that of 49 students unsuccessful at the recent examinations 24 had appealed. Only one appeal was allowed, that of F. A. Aylesworth.

Date of Examinations.—The date of the annual spring examinations at Toronto and Kingston was made the third Tuesday in May instead of the second Tuesday as heretofore.

Discipline.—The Committee on Discipline reported that Dr. H. B. Lemon's application for reinstatement had been granted, while that of Dr. H. E. Shepard had been refused. The charges of unprofessional conduct against Dr. J. E. Hett, of Berlin, and Dr. A. Crighton, of Castleton, were referred to the committee to investigate and report at the next session.

British Registration.—The special committee appointed to consider the communication from the Provincial Secretary respecting reciprocity in registration with Great Britain reported that they had not sufficient information on the subject at present to bring in an intelligent report. For the same reason the request from Quebec, Nova Scotia and Johns Hopkins for reciprocity in registration was laid over.

Executive Committee.—An executive committee of the Council was appointed, consisting of Drs. Sullivan, Macdonald and Henderson.

A motion was made by Dr. Klotz, seconded by Dr. Mearns, that the attention of the Dominion Medical Association and the various councils be called to the action of the Ontario Medical Council in relation to the desired restrictions on the sale of patent medicine. The motion was carried.

Fifth Year Students.—The report of the Education Committee was received A change was made in the regulations by which fifth year students will be allowed to practise under physicians for information and clinical experience

An amendment was moved to allow fifth year students to receive a certificate for having been one year in a hospital of over 50 beds; or for six months in such hospital and six months with a doctor, instead of taking the fifth year lectures. After some warm discussions this was carried by a vote of 18 to 9.

Clinical work in Gynaecology.—Four months of clinical work was added to the four months course in gynaecology.

Examiners.—The Board of Examiners appointed for the coming year was as follows:—Descriptive anatomy. Dr. McKay, of Oshawa; theory and practice of medicine, Dr. Ryan, of Kingston; midwifery, etc., Dr. McCabe, Strathroy; physiology and histology, Dr. A. Primrose, Toronto; surgery, Dr. W. T. Parkes; medical anatomy, etc., Dr. Middlebrough; chemistry, etc., Dr. A. R. Pyne; materia medica, Dr. J. A. Sprague; medical jurisprudence, Dr. A. J. Sinclair; assistant examiner surgery and diseases of women, Dr. R. Ferguson, London; assistant examiner, clinical surgery, Dr. O'Reilly, Toronto; 1st assistant medicine, diseases of children, Dr. A. Haig, Kingston; 2nd assistant examiner in medicine, Dr. G. H. Field, Cobourg; homoeopathic examiner, Dr. W. McFall, Peterboro.

Letter of Explanation.—It was decided to write to Mr. Eudo Saunders and to the newspapers, explaining the action of the council upon Mr. Saunders' letter respecting the prescription of liquors to habitual drunkards.

QUEBEC MEDICAL COUNCIL.

At a meeting of the College of Physicians and Surgeons, fifty physicians were granted the right to practice in the Province of Quebec and twenty-one candidates admitted to the study of medicine. The treasurer's report showed that there was a balance of $4,510.06 on the right side. The following gentlemen having fulfilled the requirements were granted licenses: George E. Beauregard; John George Browne; Raoul Philippe Bonin; Arthur Bergeron; Isaac E. Crack; Thomas Fred Connelly; Omer Etienne Desjardins; Edgar David; James Robert Goodall; Richard H. M. Hardisay; John Johnson; Watts Grey; Havelock Lippiatt; Philippe Quesnel; George Marcotte; Louis Pierre Marleau; Narcisse Henri Touchette; Thomas Lankin Wilson; John A. Nutter; Jos. A. B. Godbout Jos. Elie Belanger; Jos. Alf. Drouin; P. A. Gastonguay; Emile Fortier; Adrien Bonin; Leonidas Blais; Arthur Gagnon; Zephirin Vezina; Chas. Edouard Eaton; Hig A. Sims; Jean-Marie Pellerin; Frederick P. Yorston; James Joseph McGovern; Arthur De Grandpré; Moise Verronneau; George Tanner; Arthur Gould; Theophile Laurin; William Allen Cumming; Walter Alphonse Dorion; John James Andrews; Harry Lorne; John Alexander Johnston; William Ernest McKee; Walter Flood; W. William Francis; Misses Esther, Kristal and Mary Rowland.

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EDITORIAL

THE GROWTH OF QUACKERY

It is high time that the medical profession took active steps to repress the growing evil of proprietary medicines, fake cures, the sale of poisons and alcohol in patent medicines, fraudulent medical advertisements, the use of the mails for indecent literature, and the deception of the public by all sorts of humbug healers.

With the growth of modern civilization there has also been the growth in the desire and in the numbers wishing to profit by this desire to deceive and defraud the public through the medium of offered cures for all and sundry diseases and ailments. Against fraud the public must be protected as far as possible. That the law at present is woefully defective so far as patent medicines and irregular practitioners are concerned must at once be admitted.

This should not be so. It would be a very easy matter to put a stop to the whole business. With regard to patent medicines all that is required is to compel the makers to publish the exact formulæ, and to refrain from guaranteeing cures and making statements that the medicines would not justify. No advertisement should be allowed to go further than giving the composition of the medicine and stating that it is good for so-and-so. To guarantee cures, and particularly of organic and incurable diseases, should be made prima facie evidence of fraud.

In the matter of irregular practitioners the law should be made stringent. It should be made an offence to advertise any form or system of treatment by any person or persons who are registered practitioners. That one person will render assistance to another will always be the case. The act of the good Samaritan will be repeated so long as the world lasts. But this is quite another thing from the organized efforts put forth in some quarters to treat disease by all sorts of systems and under all sorts of fanciful names. This can be stopped, should be stopped, and must be stopped.

These people make bold to denounce the entire medical profession. They advance to the public the wildest views upon diease, and lay claim

to the most extravagant powers of curing them—these powers generally being some divine gift. Preternatural Healing, Christian Science, Osteopathy, Holy Ghosters, Holy Rollers, Vital Friends, Peculiar People, Magnetic Healers, Sun Curists, Esoteric Vibrationists, Physic Scientists, etc., would be put out of business if they were debarred the right to advertise a system of diseases and offer cures. No one wishes to interfere with their private opinions, but simply to prohibit them putting their opinions in operation in the treatment of disease and the making of money thereby.

In the United States it is estimated that the annual sale of patent medicines must reach the sum of $60,000,000, and much of this does positive harm. An alcohol cure was found to contain nearly 40 per cent. of alcohol.

The literature that goes with some of the so-called cures is absolutely disgusting and immoral. Much of what is circulated for the benefit of young men is of the lewdest character which words are capable of expressing.

The medical profession owes it as a duty to itself and to the public to unite in downing this great evil. Narcotics, stimulants and abortifacients are sold by the millions of dollars' worth, and obscene literature is scattered broadcast by the tons.

THE RECENT MEDICAL COUNCIL MEETING.

The meeting of the Medical Council for 1904 was in some respects an important one. We give a full report in another part of this issue. A few features, however, merit some special consideration

Many will be pleased to note that such a veteran teacher and practitioner as Hon. Dr. M. Sullivan, of Kingston, was the unanimous choice of the members for the position of President. We wish him every success in his exalted office.

A matter of much importance came up in the question of reciprocity of registration between Ontario and Great Britain, Quebec, Nova Scotia and Johns Hopkins. This was referred to a committee consisting of Drs. Bray, Brock, Campbell, Hillier, Johnson, Macdonald and Spankie. This committee will report at the next session of the Council. In the case of Great Britain, Quebec and Nova Scotia, we would like to see some equitable way by which the qualifications of these portions of the British Empire could be accepted by each other: There would have to be a condition of perfect equality of standard and privileges. It is to be profoundly regretted that the Province of Quebec has not seen its way

clear to accept the Roddick Bill and thereby bring into operation a common Dominion system of registration. The Province of Quebec, as has been pointed out in THE CANADA LANCET, would have been the largest gainer by the change. We hope that Quebec may yet accept the terms of the Bill.

Dr. W. H. Moorehouse, of London, introduced a motion to the effect that examinations should be held in London as well as in Toronto and Kingston. If the Act creating the College of Physicians and Surgeons does not permit of this, an amendment should be sought to allow of the change being made. No good reason can be advanced why examinations should not be held in London, where there is a prosperous medical college.

Another change in the right direction was that of raising the standard of matriculation. Although the same examination is accepted, a higher percentage is demanded. It is to be hoped that the council will keep on advancing the standard of entrance into the profession. It is better to do the sifting at the beginning of the course than later on.

The sale of the building on the corner of Bay and Richmond streets was up for consideration. It would undoubtedly meet with the wish of the profession to have the property sold. The present building is not suited for the requirements of the council. For the money that is invested in it, very poor returns are secured. Much better accommodation can be obtained for the same outlay.

Proprietary or patent medicines came in for their share of criticism. The Medical Council decided to ask for such legislation as will compel the vendors of such medicines to have their composition printed on the wrappers. This is a step in the right direction. The purchaser has a right to know what he is buying. This is the law in France, and it is very rigidly enforced. The further recommendation of the council to the effect that advertising curative powers for any proprietary medicine, in excess of what it can accomplish, should be treated as fraudulent will meet with the approval of all. These positions THE CANADA LANCET has urged on many occasions. It should be made a criminal offence to advertise any preparation as a positive cure for incurable diseases. The greatest duty of legislators is to protect the people in all their interests.

But the Council should make a determined effort to secure such change in the statutes as will enable it to deal with such classes as Christian Scientists, Osteopaths, Magnetists, etc. There is absolutely no reason why they should be allowed to practise. No one objects to them holding any views they please on the order of things, but they ought to be debarred the privilege of treating disease under these methods. One

reason why legislation is not secured putting a stop to these methods of practice is the lack of union, or better, the indifference among the doctors.

The Council also took up the matter of a scale of fees. It will be remembered that some years ago, at the instigation of the Patrons, the Act was amended, taking from the Medical Council the power to fix a tariff of fees. All that the Council can now do is to recommend a suitable scale. Such scale of fees would have no legal standing in court, but would have an influence in any suit by weight of authority. The Council should make a strenuous effort to secure its lost powers in this matter. If four thousand physicians ask this through the Council there is every reason to expect that the request would be granted.

Upon the whole, the Council is to be congratulated on the results of this year's session.

SOME RECENT WORK ON TUBERCULOSIS.

Dr. M. P. Ravenel, bacteriologist of the State Live Stock Sanitary Board of Pennsylvania, who has devoted much time to the study of the relationship of human and bovine tuberculosis, has again announced his opinion in favor of the view that both are indentical. In 1814, Lænnec maintained the unity of tuberculosis in all animals. His views were opposed by Virchow, but Villemin showed, in 1865, that the disease was transmissible by inoculation. In 1901, Koch made the statement at the London Conference on tuberculosis, that the disease in man is quite different from that in animals. He held that it was practically impossible to communicate the disease from man to bovine animals, and that production of the disease in man by the germs obtained from cattle was so rare that it could be neglected. Dr Ravenel dissents from Koch's teaching, and holds that the disease in man and cattle is indentical. He has practical proof that animals can be infected by cultures of human origin, and also gives instances where human subjects have been inoculated by the bacilli from cattle. He points out that the bacilli in meat or milk may enter the human body through the tonsils, or at any point in the digestive canal. Infection has also taken place through wounds. Such instances are not infrequent.

Dr. E. Salmon, of Washington, comes forward with a strong array of facts to prove that the human and bovine disease is the same, and that man may infect cattle and cattle man. Pure cultures of the bacilli from man when injected into cattle produce the disease in a most characteristic manner. In some of the tests made with cultures obtained from children, the baccilli were so virulent for calves that there is very conclusive proof that these children must have contracted the disease from

a bovine source. This form of combined biologic and clinical evidence is now yielding almost irresistable proof that the disease is the same in man and cattle and transmissable from the one to the other. By experiment, the disease can be conveyed from man to cattle. On the other hand, there is abundant evidence that it can be contracted by man through the medium of tuberculous meat and milk, or by wounds, and that, when so contracted, it is as virulent in turn for cattle as cultures directly of bovince origin.

But this is not all. Some time ago, at Koch's suggestion, a German commission was appointed to study the question of human and bovine tuberculosis. Dr. Kossel has issued an advanced statement of the findings of this commission. The proof of the identity of the disease is very complete; indeed it is absolutely convincing. These investigations reverse Koch's statement that the disease is not transmissible from man to cattle; and show that such transmission is not only possible, bnt is, at times, quite virulent. The commission also brings forward proof that the disease can be acquired by man from a bovine source.

The British Commission having the same matter in hand is also reporting against Koch's teachings.

Another aspect of tuberculosis is dealt with by Dr. Abbott, Secretary of the Massachusetts State Board of Health. By careful examinations of the death rate from tuberculosis in New England, he concludes that it is steadily declining, and is now only 37 per cent. of what it was in 1853. This is most encouraging. Drs. Hillier and Newsholme, of England, claim that tuberculosis is the most preventible of all the infectious diseases, and that it should be practically exterminated in another generation. These sanguine views are shared in by Von Behring, of Germany.

THE CANADA LANCET has not once, but many times urged the vast importance of prevention. This far outweighs in importance any attempts at treatment, however good these may be. An ounce of prevention is worth a pound of cure. It would amply repay the Provincial and Federal Governments to have suitable literature prepared and distributed in the freest manner among the people. In a recent issue of this Journal attention was directed to the heavy mortality caused in this country by tuberculosis, and the enormous loss to the state in the loss of so many lives and the amount of sickness and the expenses caused by the prevalency of the disease. And yet it is preventable!

ARTERIO-SCLEROSIS.

This subject is growing in importance, because it is now receiving the attention that its frequency and injurious effects merit. Some years

ago but little was said upon this subject, but this has changed. At the recent meeting of the American Medical Association, the section on the practice of medicine devoted an entire session to the study of this condition.

Dr. W. H. Welch took up the pathology of arterio-sclerosis. He referred particularly to the cicatricial form which was confined mainly to the ascending aorta. Syphilis, he said, played an important part in the etiology of the disease. The hypertrophy might be compensatory in arterio-sclerosis as in some forms of heart disease. There might be extensive arterio-sclerosis without clinical manifestations or injury to any of the organs. One of the most important features of the disease for study was the cause for the rise of arterial pressure and the cardiac hypertrophy.

Dr. William S. Thayer discussed the disease in its relationship to acute infectious diseases and some other asserted causes. He had gone over 3,894 cases and histories, and found that no cause could be found in 18.9 per cent. of cases of arterio-sclerosis ; that diphtheria had preceded in the history of the persons in 28.7 per centage of the cases ; pneumonia in 19.6 ; malaria in 22.6 ; syphilis in 23 ; scarlet fever in 24 ; rheumatism in 41 ; alcoholism in 53.3 ; and heavy work in 62.2. In many instances several of these diseases or conditions were found in the life of the patients. It will thus be seen that rheumatism, alcoholism and heavy work were found in the histories of a very large per centage of cases of arterio-sclerosis.

Dr. C. Travis Drennan took the question of syphilis and arterio-sclerosis. He contended that syphilis had a tendency to produce the disease in various organs. He claimed that faulty methods of treatment by means of mercurials and iodides was responsible for much of the arterial change following syphilis.

Dr. George Dock thought that the causative influence of nephritis was very considerable. The kidney lesions might be latent and suddenly develop symptoms. In acute nephritis the hyperdistention of the vessels might lead to disease of the intima, followed by compensatory, and later on by degenerative changes

Dr. Frank Billings discussed the effects of lead on the arteries. He thought that lead acted directly on the vessel walls, causing an endarteritis. Along with this there was a degenerative and thickening process in the media, and, also, a degeneration in the muscular coating, with proliferation and thickening. There was an interstitial thickening of the outer covering. There was a chronic degeneration in the kidneys, resulting in cirrhosis and fibroid changes in their arteries, tubules and glomeruli.

Dr. Richard C. Cabot read a paper on the influence of alcohol in the causation of arterio-sclerosis. He contended that in persons under 40 years the effect of alcohol was very slight. About 6 per cent. of his cases gave a history of alcoholic excesses.

Dr. William Osler spoke on the connection between angina pectoris and arterio-sclerosis. He thought that these attacks of pain were associated with arterial disease in a large number of instances. In the same way in arterio-sclerosis of the vessels of the head there were often attacks of pain. In some instances of sclerosis of the abdominal vessels there was severe pain. There were several types of angina pectoris: (1) those occurring in young persons of neurotic temperament and without arterio-sclerosis; (2) those cases associated with syphilitic arterio-sclerosis; (3) a group at about the ages of 40 to 60, or in the pre-senile period; and (4) an important old age group in persons over 60 years.

Dr. James M. Anders laid down the etiological catagories as follows: (1) those due to toxic agencies, as alcohol, lead, gout, diabetes, syphilis, rheumatism and infectious diseases; (2) from over ingestion of foods, as nitrogenous and carbo-hydrate diets; (3) cases due to hypertension, as over-exertion. Prevention was the main thing to be considered. Causes should be sought out and removed. Diabetic treatment was of the utmost importance. Warm baths reduced the arterial tension. The iodides were useful, but specially so in syphilitic cases. It was doubtful if medicines could cure any case. There were many instances of the disease with very little increase of tension.

Dr. Stengel stated that to do much for these cases, treatment must be commenced early. He was strongly of the opinion that alcohol was an important cause.

Dr. F. C. Shattuck claimed that the modern conditions of business life, where men carried such mental strain, was a cause for the disease. Alcohol was also a factor. The causes were quite numerous.

Dr. Kraus said that the great etiological factor was the circulation of toxins in the system. These permeated the coats of the vessels and induced changes in them.

Dr. Chas. G. Stockton referred to the occurrence of abdominal pain in some of these cases. The nitrites and nitroglycerine were of much value in high tension cases, but our best drug was iodine in some form.

THE CAUSES OF DEATH IN ONTARIO.

A study of the vital statistics of the Province of Ontario reveals some very instructive points for careful consideration.

The report on births, marriages, and deaths for the year 1903 shows

that there were 27,864 deaths in the Province. The number of deaths due to some form of micro-organism was 11,136, almost 40 per cent. made up as follows: typhoid fever, 532; smallpox, 9; measles, 170; scarlet fever, 518; whooping cough, 249; diphtheria, 939; influenza, 179; other epidemics, 26; pyaemia and septicaemia, 316; malaria, 18; tuberculosis, 3,590; syphilis, 10; epidemic cerebro-spinal meningitis, 139; pneumonia, 2,375; cholora infantum and infantile diarrhœa, 1,128; dysentery, 47; peritonitis, appendicitis, and typhlitis, 711; puerperal septicæmia, 54; puerperal breast trouble, 2: erysipelas, 107; tetanus, 15; anthrax, 2. In addition to the above there were 163 deaths from pleurisy, and 59 from chronic bone and joint diseases. It is only fair to assume that many of these, indeed most of them, were due to tubercular trouble.

It will be noticed from the above that some diseases stand out very prominently. These are typhoid fever, scarlet fever, diphtheria, tuberculosis, pneumonia, cholera infantum and infantile diarrhœa, and peritonitis, appendicitis and typhlitis. These diseases total 9,693 out of the 11,136 caused by some kind of germ infection. Three of these diseases, tuberculosis, pneumonia and infantile diarrhœa caused 6,993 of the deaths in the Province.

Some other causes of death bulk large in the report. One of these is cancer with 1,405 deaths to its credit, or a little over 5 per cent. of the total number. Organic heart diseases caused 2,215 deaths or 8 per cent. There were 1,633 deaths due to still-births, and 3,154 to congential debility and malformations, or to these two causes a total of 4,787 making 17 per cent of all the deaths.

The total number of births for the year was 47,796. These two causes of death would be respectively, a little over 3 and 6 per cent. of the birth-rate, or over 10 per cent. of the children born were lost by these two causes. Senility accounted for 4,014 deaths, or 14½ per cent.

AUTO-INFECTION.

Many diseases are due to the entry into the system of an organism or microbe of some kind, but there are also many other conditions of ill health that are brought about by the existence in the system of poison generated within it. Errors in diet, such as the excessive use of meats and over indulgence in alcoholic beverages are common causes of auto-intoxication. The ravages of gout on the various organs of the body are well known, and gout is the outcome of civilization, lack of exercise, and the excessive consumption of meat and drink. The uric acid, formed under these conditions, gives rise to insoluble compounds or act

directly as a poison on many parts of the body, notably the vascular system.

The imperfect elimination of carbon dioxide from the blood, through some fault in the lungs or circulation, the retention of impurities in the system, from derangements of the liver or kidneys, or the result of the absorption of poisons from the intestinal canal, are familiar forms by which the health is impaired, leading to various kinds of nervous, respiratory, circulatory, renal and digestive disturbances.

BOOK REVIEWS.

MUIR'S MATERIA MEDICA AND PHARMACY.

A Manual of Materia Medica and Pharmacy specially designed for the use of practitioners and Medical, Pharmaceutical, Dental and Veterinary Students, by E. Stanton Muir, Ph.I., V.M.D., Instructor in Comparative Materia Medica and Pharmacy in the University of Pennsylvania. Third edition, revised and enlarged. Philadelphia: F. A. Davis Company, Publishers, 1904.

The popularity of this manual is indicated by the demand for a third edition, Part I gives a synopsis of the terms used in the Botany of Materia Medica, Part II the essential points with regard to individual drugs are given in alphabetical arrangement, the dosage for various animals being given. Part III is devoted to Pharmacy.

The metrical system is used primarily and the pages are interleaved for convenience in adding notes.

INTERNATIONAL CLINICS.

A Quarterly of illustrated clinical lectures and especially prepared original articles on Treatment, Medicine, Surgery, Neurology, Pediatrics, Obstetrics, Gynecology, Orthopedics, Pathology, Dermatology, Ophthalmology, Otology, Rhinology, Laryngology, Hygiene and other topics of interest to students and practitioners, by leading members of the medical profession throughout the world. Edited by A. O. J. Kelly, S.M., M.D., Philadelphia, U.S.A., with a colleboration of Wm. Osler, M.D., Baltimore; John H. Musser, M.D., Philadelphia; Jas. Stewart, M.D., Montreal; J. B. Murphy, M.D., Chicago; A. McPhedran, M.D., Toronto; Thos. M. Rotch, M.D., Boston; John G. Clark, M.D., Philadelphia; Jas. J. Walsh, M.D., New York: J. W. Ballantyne, M.D., Edinburgh; John Harold, M.D., London; Edmund Landholt, M.D., Paris; Richard Kretz, M.D., Vienna, with regular correspondents in Montreal, London, Paris, Berlin, Vienna, Leipsic, Brussells and Carlsbad. Volume I, Fourteenth series, 1904. Philadelphia: J. B. Lippincott Company, 1904. Cloth, $2.25.

Volume I of the fourteenth series of International Clinics just issued has about 300 pages, with three colored plates and a large number of illustrations and figures. It contains a number of articles of very great interest and value, marking as they do the very latest authoritative

opinion on the subject discussed. We may mention the article on "The Chlorid Reduction Treatment of Parenchymatous Nephritis," by Widal and Javal, of Paris, in which, after a prolonged study of a case of Bright's disease, they conclude that the amount of salt in a diet is one of the determining factors as to its value in this disease, and the success attained by the use of a milk diet is largely due to the small amount of sodium chloride contained. Wilcox, of New York, contributes a study of adonin, a glucoside derived from adonis vernalis, which has similar properties to digitalis. Cattell describes "The Practical Application of Cryoscopy to Medicine." In the department of surgery Beck has an illustrated article on angioma and its treatment, in which he claims that extirpation is the only radical treatment and the best, but should be preceded by the growing of healthy skin by continuous subcutaneous ligature. Intestinal anastomiosis by the Connell suture is discussed by Clark and Luther of the University of Pennsylvania with a report of five cases. There are seventeen original articles besides the study of the year's progress in medicine, surgery and treatment.

LECTURES ON CLINICAL PSYCHIATRY

By Dr. Emil Kraepelin, Professor of Psychiatry in the University of Munich. Authorized translation from the German. Revised and edited by Thomas Johnstone, M.D., Edin., M.R.C.P., Lond, Member of the Medico-Psychological Association of Great Britain and Ireland. London: Bailliere, Tindall and Cox, 8 Henrietta Street, Covent Garden, 1904. 10s. 6d.

Kraepelin has caused a revival of interest in Psychiatry through his bold attitude taken in the fifth edition of his text-book, where he believes that conditions seem ripe for considering a number of types of mental derangement as definite pathological and nosological entities. Consequently the appearance of a collection of clinical lectures translated into English will have a hearty reception alike from alienists and general practitioners. The material of the book is carefully arranged in graded cases following a course of clinical lectures through a whole term, beginning with melancholia and proceeding through the varieties of insanity and imbecility due to various causes, and closing with cretinism. The patients are brought before the audience and described in clear cut sentences, the history is then related, with a discussion on the diagnosis, prognosis and treatment. Prognosis is most faithfully dealt with, and the condition of the patient is stated up to the moment of going to press. A feature of the lectures is the general review of the life history of the patient; no mere history of a week or a year, but a bird's eye view of the condition from the beginning to the end. Throughout the

whole series of cases the diagnosis of the condition is the point most emphasized, and it is evident that the aim of the book is to provide a guide to the clinical investigation of the insane, nevertheless treatment is by no means omitted, and some most useful hints can be gathered from the lectures. The use of saline solutions and transfusions in acute asthenic cases are recommended as being of particular value. The translation is excellent, and the clinics are conducted in such a way that reading is a pleasure. The nomenclature of the diseases is one which is becoming better known to English-speaking people, but which, as yet, is not found in any English text-book. It is, however, very simple, as the words explain the conditions they indicate. The first chapter is introductory, and also deals with melancholia; three chapters treat of each of the following: maniacal depressive conditions, dementia praecox, general paralysis; two on katatonia; one on paranoia; delirium after acute diseases, after head injuries, epileptic, hysterical, puerperal; two on alcoholic insanity; and one on morphinism and cocainism. In addition five lectures are devoted to the varieties of imbecility and the remaining five to varieties of delirium and delusions, irrepressible ideas and fears, morbid personalities and cretinism.

One is impressed with the fact that certain well defined types of mental disease can be isolated, diagnosed, and a diagnosis given with fair accuracy, and that there is a hope that sooner or later the whole field will be covered in a similar manner. No book of a similar nature has been published in recent years, and it will prove of great value to the general practitioner who, as a rule, is the first in contact with cases of mental disease, the early recognition of which is of such grave importance.

AMERICAN EDITION OF NOTHNAGEL'S PRACTICE.

Tuberculosis and Acute General Miliary Tuberculosis. By. Dr. G. Cornet, of Berlin. Edited, with additions, by Walter B. James, M. D., Professor of the Practice of Medicine in the College of Physicians and Surgeons (Columbia University), New York. Handsome octavo volume of 806 pages. Philadelphia, New York, London: W. B. Saunders & Company, 1904. Cloth, $5.00 net; Half Morocco, $6.00 net. J. A. Carveth & Co., Limited, 434 Yonge St., Toronto.

This is the seventh volume to be issued in Saunders' American edition of Nothnagel's Practice, and the remaining four volumes are in active preparation for early publication.

The American edition of Professor Cornet's exhaustive work appears at a time when the subject of tuberculosis has a peculiar claim upon the attention of mankind. Within a few years both professional and general public interest in the disease has taken enormous strides. In

almost every civilized community societies for the prevention of tuberculosis are being organized, and these are composed not only of physicians but of laymen, while governments themselves are taking an active part in the movement. Under these circumstances, and at this time, the work is of interest to practitioners, for there is no other treatise which gives an equally clear and comprehensive view of this subject.

The article on Acute General Miliary Tuberculosis has been admirably written and gives a thoroughly clear understanding of this disease.

The importance of the Chemistry of the Tubercle Bacillus and its bearing upon Immunity have warranted a thorough treatment of this subject.

The work is complete and logically arranged, and the editor has made additions where necessary to bring it down to date.

OUR BABY.

For Mothers and Nurses by Mrs. J. Langton Hewer. Eighth edition, Revised. Bristol: John Wright & Co.; London: Simpkin, Marshall & Co.; Toronto: J. A. Carveth & Co. Price, cloth 2s. 6d., paper 1s. 6d.

The authoress of this little book is an obstetrician and hospital nurse of much experience. She knows what to say and says it. The book is full of excellent advice and mothers and nurses would do well to consult its pages. Everything that concerns the welfare of the baby—its clothing, feeding, bathing, ailments, etc.—here find a place. We recommend this book with much confidence.

AMERICAN EDITION OF NOTHNAGEL'S PRACTICE.

Diseases of the Intestines and Peritoneum. By Dr. Hermann Nothnagel, of Vienna. The entire volume edited, with additions, by Humphrey D. Rolleston, M. D., F. R. C. P., Physician to St. George's Hospital, London, England. Octavo volume of 1032 pages, fully illustrated. Philadelphia, New York, London: W. B. Saunders & Company, 1904. Cloth, $5.00 net; Half Morocco, $6.00 net. J. A. Carveth & Co., Limited, 434 Yonge St., Toronto.

This new volume in Saunders' American edition of Nothnagel's Practice is the eighth to be issued, and appearing within two months after the publication of the volume on Tuberculosis, gives evidence that the publishers intend completing the series at an early date. This, one of the most valuable volumes in the series, is by the famous clinican Dr. Hermann Nothnagel himself, and is as exhaustive as it is practical. The distinguished editor, Dr. Humphrey D. Rolleston, of London, England, has used his pen most profusely, almost every page giving generous evidence of his careful editing. The editorial additions include sections on Intestinal Sand, Sprue, Ulcerative Colitis, and Idiopathic Cilatation of

the Colon. Appendicitis and Peritonitis have been given unusual space, treatment and diagnosis receiving exhaustive consideration. The section on Intussusception has been greatly enlarged by the invaluable addition of D'Arcy Power, of England, who has made this subject his own. There are twenty inserts of great merit.

EPILEPSY AND ITS TREATMENT.

By William P. Spratling, M. D., Superintendent of the Craig Colony for Epileptics at Sonyea, N. Y. Handsome octavo volume of 522 pages, illustrated. Philadelphia, New York, London: W. B. Saunders & Company, 1904. Cloth, $4.00 net. J. A. Carveth & Co., Limited, 434 Yonge St., Toronto.

This work by Dr. Spratling is of unusual interest for many reasons: It is the first complete treatise on Epilepsy since the appearance of Echeverria's work published over 33 years ago, and represents the practical experience of Dr. Spratling as Superintendent of the Craig Colony for Epileptics at Sonyea, N. Y., during a period of ten years. The great progress made in the knowledge of Epilepsy and its treatment during the past fifteen years certainly demanded an accurate and careful work which would include these latest advancements. Dr. Spratling has given us all that could be desired. Of particular interest are the chapters on the Psycologic and Medico-legal aspects. An entire section is devoted to the all-important seizure type—Status Epilepticus; and treatment, general, educational, medical and surgical, is discussed with wisdom, thought and conservatism. The subject is bountifully illuminated by the citation of illustrative cases; and, indeed, for the entire work we have nothing but praise. General practitioners, as well as those especially interested in Epilepsy, will find the book of great value.

OBSTETRIC AND GYNECOLOGIC NURSING.

By Edward P. Davis, A. M., M. D., Professor of Obstetrics in the Jefferson Medical College and in the Philadelphia Polyclinic. 12 mo. volume of 402 pages, fully illustrated. Second edition, thoroughly revised. Philadelphia, New York, London: W. B. Saunders & Company, 1904. Polished buckram, $1.75 net. Second edition, thoroughly revised. J. A. Carveth & Co., Limited, 434 Yonge St., Toronto.

The usefulness of this book to the nursing profession is manifest by the fact that a second edition has been called for. It is necessary for an obstetric nurse to possess some knowledge of natural pregnancy and of its consequent diseases; and as gynecologic nursing is really a branch of surgical nursing, special training and instruction are required to meet the conditions arising. This book just fills the need, everything that the obstetric and gynecologic nurse should know being included. The

second edition shows evidence of having been carefully revised throughout, and considerable new matter has been added. It would be well if every trained nurse possessed a copy of this book, for it certainly is of inestimable value.

AILMENTS OF WOMEN AND GIRLS.

By Florence Stacpoole, Certificate Obstetrical Society, London; Lecturer for the National Health Society, and for the Councils of Technical Education. Author of "Advice to Women on the Care of their Health before, during, and after Confinement." "Our Sick: and how to take care of them." Etc., etc. Crown 8vo, Cloth, bevelled boards, 3/- net; or stiff paper boards, 2/- net. Bristol: John Wright & Co. London: Simpkin, Marshall, Hamilton, Kent & Co., Ltd. 1904.

This little volume has been written for Women by a Woman. The talented authoress is thoroughly trained in the subjects she writes about, which are most important for all women to know, and about which much ignorance is common, which in many cases leads to needless, and sometimes to life-long, suffering. No other book occupies quite the same ground. The language is as simple and untechnical as may be, in order to convey a clear understanding of the meaning. The proofs have been carefully prepared, and have had the great advantage of being revised by two competent English physicians; so that no question of the information conveyed, or the safety of any of the home treatment mentioned, can arise.

CLINICAL METHODS.

A Pocket Book of Clinical Methods by Chas. H. Mulland, M.D., Lond., M.R.C.P., Physician to Ancoats Hospital, Manchester. Bristol: John Wright & Co, London: Simpkin, Marshall & Co.; Toronto: J. A. Carveth & Co. Price 1s. 6d.

This little pocket manual deals with the clinical examination of the sputum, gastric contents, the faeces, the urine, pus and other fluids, and the blood. The methods described are the usual ones, and given in are clear language. It will prove to its possessors a useful manual on the above topics.

SUTHERLAND'S DISPENSING.

Dispensing made easy by W. G. Sutherland, M.B., Aberd., formerly House Surgeon Queen's Jubilee Hospital, Earl's Court, London, W.C.; Civil Surgeon in charge Orange River Military Hospital, Boer War, 1900, etc., etc. Bristol: John Wright & Co.; London: Simpkin, Marshall & Co'; Toronto: J. A Carveth & Co Price 3s. 6d., 1904.

This is a handy little book of useful information on dispensing It contains many formulæ and their mode of preparation. It is specially intended for the physician who does his own dispensing. For this purpose it will prove of much utility. There are many blank leaves for memoranda.

MEMBRANOUS CATARRH OF THE INTESTINES.

Part III of Clinical Treatises on the Pathology and Therapy of Disorders of Metobolism and Nutritism. By Dr. Carl Von Noorden, Physician in Chief to the City Hospital, Frankfort-on-Maine. Translated by Boardman Reed, M.D., New York: E. B. Neat & Co. 1904. Price, 50 cents.

This little book is a good exposition of colica mucosa, or membranous intestinal catarrh. Under the head of pathology, he passes under review the various theories of the disease. He regards the disease as the result of chronic constipation setting up gastro-intestinal disturbance, inducing the person to live on a rigid diet. Following this comes on the condition of nervous diarrhoea or secretory neurosis. The treatment of the condition symptomatic, causal, and dietetic is given. During the attacks the author recommends hot applications, the administration of narcotics and water injections. The causal treatment consists of giving careful attention to the condition of the nervous system and the digestive organs. With regard to the latter, a coarse diet is strongly advocated. The author thinks that a carefully selected diet of light foods increases the trouble. This little book will afford much information to those who consult its pages.

URIC ACID.

An epitome of the subject by Alexander Haig, M. A., M. D. Oxon., F. R. C. P., Lon., Physician to the Metropolitan Hospital, and the Royal Hospital for Children and Women. London: Messrs. J. & A. Churchill, 7 Great Marlborough Street. 1904. Cloth 2s. 6d.

Dr. Haig, in a neat volume of 152 pages, gives an epitome of the subject of uric acid to which he has devoted so much attention. The book contains six chapters and deals with the history of the subject, the physical properties and peculiarities of uric acid, the collaemic or circulation group of food poisons, the local irritation or arthritic group of food poisons, uric acid and the clinical worker, and the prevention and treatment of food poisoning. Dr. Haig has an interesting manner of presenting his views, and for this reason his writings are always very readable. This little book will prove instructive to all who read it. The question of uric acid in the system is a very important one, and this becomes very clear after reading such a book as this. He condemns the consumption of meat and contends that bread, bread stuffs, milk, cheese, dried fruits, fresh fruits, vegetables and nuts yield all the nutrition required and, at the same time, constitute a uric acid free diet. The injestion of uric acid, its presence in the blood, and accumulation in certain parts of the body are questions that should interest every physician, and we know of no book that gives a clearer account of the subject, in brief space, than this one of Dr. Haig's.

DR. HALL'S LIFE ASSURANCE EXAMINATIONS

The medical examination for Life Assurance with remarks on the selection of an office. By F. De Havilland Hall, M. D., F. R. C. P., President of the Medical Society of London ; Physician to the Westminster Hospital ; Physician to the Rock Life Assurance Company. Third edition, greatly enlarged. Bristol : J. W. Wright & Co. ; London : Simpkin, Marshall & Co. ; Toronto : J. A. Carveth & Co. 1903. Price. 4s. net.

This book has long been known in Britain. It should also be well known in this country, as it is brief and useful. The subject of making examinations for assurance companies is discussed under the four headings: Family History, Personal History, Present condition and Environment. Some useful suggestions are made on the various forms of policies, and the selection of female risks. Any physician who has any examinations to make for assurance companies, will be well repaid by carefully reading this book. Judging from our own experience in the selection of lives we can recommend this book to our readers.

THE PHYSIOLOGICAL FEEDING OF INFANTS.

By Eric Pritchard, M.D. Second Edition. Pub. by Henry Kimpton, London, Eng. Pages 197. Price 3/6.

In his preface the author states that in writing this book he ha endeavoured to "avoid as far as possible technical terms and expressions which would not be understood by a nurse of average intelligence;" and he insists "that there is no royal road to success in the feeding of infants, but that every case must be judged on its own merits and the food adopted to the physiological requirements of the individual body."

"The success or failure of any system of feeding depends on the manner in which it is applied rather than on the method itself."

These important truths must be appreciated fully by any one conversant with the difficulties of adopting food to individual infants. To these, and to anxious mothers this book, should prove a veritable gold mine for it is a clear, practical common sense work on this important subject.

The work is divided into two parts.

Part I consists of an introduction dealing with the evolution of percentage feeding, and of four chapters on breast feeding and percentage feeding.

Part II. is devoted to the Developments and Physiology of Infancy. The work concludes with an Appendix dealing with various food recipes; percentage composition of various foods and subsidiary methods of feeding: E. J. Savage, by the bowel; and the feeding of premature infants.

The book deals entirely with the subject of home modification of food, for while laboratory feeding is good, in the opinion of the author it has many disadvantages.

The directions are clearly given and every detail is carefully explained so that any woman of average intelligence should have no difficulty in carrying out the author's instructions.

It is replete with tables dealing with amounts of food for infants of various ages. Weight tables, other matters which are important and which can be arranged in this form.

The chapter dealing with the modification of food in difficult cases is most satisfactory. Various forms of food mixtures which can be administered to delicate infants are given, with illustrative cases. The dietetic treatment of malnutrition of Rickets, Scurvy, Infantile Atrophy and Gastro-enteritis is fully given, with illustrative cases.

Part II. is full of valuable advice to the expectant mother, and besides dealing with the physiology of infancy, describes many of the abnormal conditions commonly met with, and gives appropriate treatment when indicated.

The work cannot be too highly commended and we are sure it will prove of value not only to physicians but to mothers and nurses.

It is to be regretted that the author has omitted mention of whey mixtures and it is be hoped that this will be remedied in future editions.

A MANUAL OF SURGICAL DIAGNOSIS.

By James Berry, B.S., F.R.C.S. Surgeon, etc., and Lecturer on Surgery at the Royal Free Hospital: formerly Surgical Registrar and Demonstratoor of Anatomy, Operative Surgery, and Practical Surgery at St. Bartholomew's Hospital, London. J. & A. Churchill, 7 Great Marlborough Street, 1904. Price, 6 shillings.

This is an excellent little book of 322 pages, with first-class type. paper and binding. The author covers a wide range and although in such a manual the space allotted to each subject is necessarily brief, the book will be found full of interest and help. The matter is carefully arranged and the author is to be complimented upon giving medical readers a little volume which is sure to be much appreciated.

PROGRESSIVE MEDICINE.

A Quarterly Digest of Advances, Discoveries, and Improvements in the Medical and Surgical Sciences, Edited by H. A. Hare, M.D., assisted by H. A. M. Landis M.D. Vol. 11, June, 1904. Lea Brothers & Co., Philadelphia and New York. Price $2.25 per volume, cloth ; $1.50, heavy paper.

The present volume contains articles by William B. Coley, on Abnormal Surgery ; by John G. Clark on Gynaecology ; by Alfred Stengel,

on Diseases of the Blood; and by Edward Jackson, on Ophthalmology. The volume is well illustrated, and thoroughly up-to-date in every respect. We can cordially recommend this publication to every one who wishes a carefully prepared review of medical and surgical progress during the quarter. The complete series forms an excellent reference-library.

CORRESPONDENCE.

WALTER REED, IN MEMORIUM.

Editor Canada Lancet.

Dear Sir:—Peace has its heroes as well as war and the profession to which we have the honour to belong has produced many of them.

The incalculable benefits conferred upon humanity by the work of our great sanitarians and bacteriologists cannot be expressed in figures and hardly in words; yet, in the eyes of the laity, the man who, like Napoleon, causes the death of a million men or, like Kitchener, who slew 16,000 men in a single battle, is held in the greatest honour. Statues are erected to his honor, the book shelves groan beneath the weight of biographies and his name is handed down to posterity as the greatest hero of the age. But the man who like Pasteur discloses the cause of disease and is the means of preventing the death of millions of human beings is soon forgotten or, like Walter Reed, is unknown to the general public. Ninety times has yellow fever invaded the United States, carrying death and destruction and leaving poverty and grief behind it. New Orleans, Memphis, Charlestown, Baltimore, New York and other cities have been swept by the disease. The epidemic of 1853 cost New Orleans eight thousand lives. The financial loss to the people of the United States in the epidemic of 1878 was estimated as amounting to $15,335.000 yet to-day as a direct result of Reed's labours, an epidemic is hardly feared.

Walter Reed was born in Virginia, September 15th 1851, and graduated in 1868, when only 17 years old, he received a second degree later from Bellevue Medical College, New York, and became a house surgeon at the Brooklyn City Hospital and the City Hosiptal, Blackwell's Island. Before the age of twenty-one, he was a district physician in New York City and at twenty-two an inspector of the health board of Brooklyn. He entered the United States Army as assistant surgeon in 1875 and served in the various frontier posts of the West and in the Eastern and Southern States. In 1890 he was assigned to duty at Baltimore and had the great advantage of working in the laboratories at Johns Hopkins

University for over a year. In 1893 he was promoted to the rank of Major and detailed to Washington as curator of the Army Medical Museum and professor of Bacteriology in the Army Medical School. During the Spanish-American war the troops in the American camps were decimated by typhoid fever and Major Reed was appointed head of a commission to ascertain the cause. The most valuable and original work of the board is the proof that the infection of typhoid fever is spread in camps by the common fly and by contact with patients and infected articles as well as by contaminated water, surely a very valuable series of etiological facts

In June, 1900, Reed was sent to Cuba to study the infectious diseases of the country, more especially yellow fever. At this time the American authorities in Cuba had for a year and a half endeavoured to diminish the disease and mortality of Cuban towns by sanitation, with some degree of success but the yellow fever was apparently undiminished by these sanitary measures. Reed was convinced that the disease was conveyed by an insect. Up to this time the most generally accepted theory of the causation of yellow fever was that of Sanarelli, who claimed that the Bacillus icteroides, discovered by him, was the cause of the disease. Major Reed, associated with Dr. Carroll, had, however, already demonstrated that this bacillus was widely disseminated in the United States and bore no special reference to yellow fever. Extensive experiments were carried on near Havana, beside careful study of the blood of infected persons, upon volunteers who bravely offered themselves as subjects for experiment. The details are very interesting but too long for this article. The conclusions were as follows: 1. The specific agent in the causation of yellow fever exists in the blood of a patient for the first three days of his attack, after which he ceases to be a menace to the health of others. 2. A mosquito of a single species, Stegomyia fasciata, ingesting the blood of a patient during this infective period is powerless to convey the disease to another person by its bite until about twelve days have elapsed, but can do so thereafter for an indefinite period. 3. The disease cannot be spread in any other way than by the bite of the previously infected Stegomyia. Articles used and sold by the patient do not carry infection,

The effect of these discoveries upon quarantine is enormous, and in Havana the war upon mosquitoes has resulted in the extirmination of yellow fever, for since September 1901, the city has been entirely exempt from the disease. It is now proposed to erect a public monument to the discoverer of these facts : for, unfortunately for science, Major Reed died of appendicitis in November 1902 in Washington. Major W. D. McCaw

has issued a circular letter from which I derived my facts and General Calvin DeWitt U.S.A. 1707 21st Washington D.C. will be glad to receive subscriptions for this worthy end.

Yours &c.

G. STERLING RYERSON.

Toronto, July, 1904.

DR. ROSWELL PARK'S, POSITION *RE* CANCER.

We have received from Dr. Park the following letter with request for its publication. Editor CANADA LANCET.

SIR JAMES GRANT. M.D., K.C.M.G.,
Ottawa, Canada.

My Dear Sir James ; My attention has been called to a synopsis of your address recently given in Ottawa, in the course of which you did me the honour to allude to the Cancer Research work being done here in Buffalo under my direction. In the course of your remarks as printed in the CANADA LANCET, I not e the following sentence ; " Dr. Park makes the broad statement that there is not a practising physician in the United States who has more than a rudimentary knowledge of the subject." Inasmuch as I do not recall ever having written anything to this effect, or even said it, I have been wondering how you were lead to quote me to such effect. It certainly would be a broad statement if I had made it, and one at which many in the profession might take umbrage. I have too much respect for my colleagues and know their abilities too well to criticise them in any such fashion, and do not like to have them see in print a statement of this kind which I would have to repudiate in private ; therefore, I am going to ask that you permit me to send a copy of this letter to the editor of the LANCET in Toronto, disavowing any such sweeping and rather caustic expression as the one quoted. I believe you will not object if I do this, since I know that your friendship is too warm to permit of any unintentional error on your part in presenting my own position or statements.

Assuring you of my deep respect and regard, I am, with very best wishes,

Very sincerely yours.

22nd July, 1904. ROSWELL PARK.

MISCELLANEOUS.

A CASE OF IDIOPATHIC ANEMIA.

Chas. L. Lang, M. D., Weedsport, N. Y. in the *St. Louis Medical Era*, March, 1904, writes : Idiopathic anemia presents some very difficult conditions to relieve. During May, 1903, Mr. B. H., aged forty-eight years, gave up his work as mail carrier on a R. F. D. route, and took to his house and shortly after to his bed. He received good medical treatment from several competent physicians, but steadily failed till he seemed almost bloodless. During the autumn he was taken to Clifton Springs Sanatorium, where a blood count showed 1,500,000 red corpuscles to a c. m. m. and he was sent home as a case not suited to treatment. Less than three weeks ago I first saw him. He was confined to bed, dropsical, nearly bloodless, not greatly emaciated, hardly able to express an idea, brain being almost inactive. He had always chewed tobacco excessively ; this I stopped abruptly and completely. I put him on pepto-mangan (Gude), in place of . . . . . which he was taking, and gave him 1-10 gr. of arsenious acid in tablet form once daily.

For five days he lay partly comatose, then began to revive, and from that time on has improved very rapidly. The dropsy is all gone, and the mucous membranes of lips and eyelids are red. He sits at the table and eats several pounds of red meat daily, sleeps quietly, and his brain works easily and actively. I am not puffing any particular medicine ; indeed, I hardly know which to give the credit to—the pepto-mangan or the breaking of the tobacco habit. He has never asked for tobacco since he "came to." He seems so amazed to find himself improving that he is willing to give it up.

ENTEROCOLITIS AND CHOLERA INFANTUM.

Cleanse the intestinal tract with calomel and a saline or with castor oil. Prescribe a suitable diet, easily digested and non-irritating. Irrigate the rectum and colon at suitable intervals with normal salt solution or some mild antiseptic, using for the purpose a soft rubber catheter or colon tube.

Instead of opiates, which lock up the secretions and thereby favor auto-intoxication, relieve the muscular rigidity and the excruciating pain which is such a drain upon the vital forces, by the use of Antiphlogistine as hot as can be borne to the entire abdominal walls and covered with absorbent cotton and a compress. If the patient is not too far gone ; the effect will be astonshing. The little sufferer, who

until now has been tossing in agony and restlessness, with drawn features, will in most cases quickly become quiet; the drawn look will leave the face and a restful slumber will often supervene and start him upon the road to recovery.

The explanation of this, in part, is not far to seek. The heat and moisture combined with Antiphlogistine's well known hygroscopic properties, directly soothe the inflamed parts, reflexly contracting the visceral blood-vessels and relieving their engorgement. The tension of the muscular and nervous systems is further relieved by the action of Antiphlogistine through the solar plexus thus adding to and emphasizing its local effects upon the inflamed intestines.

GOOD AND SEASONABLE

A word about some remedial preparations which the busy practitioner will find always useful, particularly at this season of the year, will no doubt be of interest. First, we will mention the old time-tried antikamnia and salol tablet, so useful during the hot weather, when even the "grown folks" load up their stomachs with the first offerings of the season. Hare says: "Salol renders the intestinal canal antiseptic and is the most valued drug in intestinal affections." The anodyne properties of antikamnia in connection with salol render this tablet very useful in dysentery, indigestion, cholera morbus, diarrhoea, colic, and all conditions due to intestinal fermentation. Then the "triple alliance" remedy so well and favorably known by its self-explanatory title namely: "Laxative Antikamnia and Quinine Tablets." To reduce fever, quiet pain, and at the same time administer a gentle tonic-laxative, is to accomplish a great deal with a single table. Among the many diseases and affections which call for such a combination, we might mention coryza, coughs and summer colds, chills and fever, biliousness, dengue and malaria with their general discomfort and great debility.

We cannot overlook our old friend the antikamnia and codeine tablet. The efficacy of this tablet in neuroses of the larynx is well known, but do all of our doctor friends know that it is especially useful in dysmenorrhoea, utero-ovarian pain and pain in general caused by suppressed or irregular menses? This tablet controls the pain of these disorders in the shortest time and by the most natural and economic method. The synergetic action of these drugs is ideal, for not only are their sedative and analgestic properties unsurpassed, but they are followed by no unpleasant after-affects.

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